AN

ENQUIRY

2340

INTO THE

NATURE, AND CAUSES

OF THE

GREAT MORTALITY AMONG THE TROOPS AT

ST. DOMINGO:

WITH

PRACTICAL REMARKS

ON THE

FEVER OF THAT ISLAND;

AND

DIRECTIONS,

FOR THE CONDUCT OF EUROPEANS ON THEIR FIRST ARRIVAL IN WARM CLIMATES.

BY

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Causa latet, vis est notissima.

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2340

TO

HIS ROYAL HIGHNESS

FREDERICK AUGUSTUS

DUKE OF YORK,

FIELD MARSHAL,

AND COMMANDER IN CHIEF OF ALL HIS MAJESTY'S FORCES,

&c. &c. &c. &c.

THIS ATTEMPT,

TO CONTRIBUTE, TOWARDS THE PRESERVATION OF THE HEALTH OF THE BRITISH ARMY,

(Of which, in critical Times, HE has been chosen the Guardian; and in the Conduct of which, HE has displayed, not only, the Hereditary Valour of the HOUSE of BRUNSWICK, but such consummate Prudence, and exact Propriety; as at once, to merit the Applause of the PUBLIC, by His Vigilance, and to command the Affection of the SOLDIER, by His Attention and Kindness)

IS,

BY HIS ROYAL HIGHNESS'S PERMISSION

HUMBLY INSCRIBED,

AS A MARK OF THE MOST PROFOUND RESPECT,

AND SINCERE GRATITUDE—

BY

HIS ROYAL HIGHNESS'S

MOST OBLIGED AND

DEVOTED SERVANT,

THE AUTHOR.

St. James's Place,
26th June 1797.

PREFACE.

AFTER the publications, which have already appeared on the Yellow-Fever; it may require ſome apology, for offering the preſent Work to the Public.

The Fever deſcribed by Dr. RUSH, which raged with ſo much violence at Philadelphia, differs very widely from the diſeaſe, which cauſed the aſtoniſhing mortality of St. Domingo. Nor does the peſtilence of Boullam, as deſcribed by Dr. CHISHOLM, bear any ſtriking reſemblance to the Endemic Remittent, which made ſuch havock among our troops.

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They deſcribe a fever highly peſtilential, and contagious; whereas the fever of St. Domingo, never manifeſted any ſuch diſpoſition.

Having had the beſt opportunities, during a reſidence of nearly three years at Port-au-Prince; of obſerving the progreſs, and treatment of the St. Domingo Remittent; I thought it my duty to communicate the reſult of my experience, and the obſervations I made on the genius and type of the fever. It may again, be the fate of a Britiſh army, to viſit this inhoſpitable iſland, and to ſuffer from its diſeaſes; it is therefore of importance to collect every information, which may enable us, to avoid them, or to combat them with more ſucceſs,

ſucceſs, when they occur. Every practitioner ought to come forward, with his ſtock of facts, and obſervations; for the benefit of the Public.

The mortality at St. Domingo, has filled the minds of every one with terror and aſtoniſhment; and though men of diſtinguiſhed abilities in their profeſſion, aſſiduouſly attended the ſick; their ſucceſs was by no means, proportioned to their exertions or talents. When many minds, however, are occupied in one reſearch, the ſubject is viewed in various lights; and, diſcoveries of importance may at length be made. Impreſſed with theſe ſentiments, I have thrown together, the remarks and obſervations,

which arose from an extensive experience; during a painful attendance, on the General Hospital at Port-au-Prince. To these I have added, whatever appeared to me connected with the welfare of an army, destined to act in a warm climate.

The constant occupation, my profession furnished me, did not permit me, to take down so many histories of the disease, as I wished; I was obliged to make my notes short; to retain only, leading and important circumstances. The points I have chiefly laboured to establish, are of considerable importance. I have endeavoured to prove, that what has been termed the Yellow Fever of St. Domingo,

is not an infectious disease; that it is not a new or peculiar distemper; but the common Remittent Endemic of that country, applied to the English constitution, and accompanied occasionally with yellowness, as an accidental symptom. The dread of its being infectious, has injured the recruiting service, by terrifying young men from enlisting in any West India regiment; and many have been kept in a state of continual alarm and terror, when the service required them to have the least communication with the sick. It is pleasing to reflect, that the general testimony of all the physicians at St. Domingo, declares that the Remittent of that island is not contagious. One source of fear, is thus removed; a source, which has

unne-

unnecessarily, alarmed and terrified all those, who embarked for this climate.

I have endeavoured to show the causes, which render the Western climate peculiarly dangerous to our youth; and I have recommended a scheme of recruiting men, for this service, at a more advanced period of life. The chance of living, in a warm climate increases, as we advance from thirty-five to fifty years of age. Men at these periods, may enjoy health at St. Domingo, and perform active duties.

I have founded my plan of Prevention, on the theory I adopted respecting the causes, which rendered the Remittent so destructive.

The

The rules for diet and exercise are the result of experience, and observation, and I trust will be found of real utility; as they apply to all warm climates.

The method of Cure, which I pursued, after many fluctuations of opinion and practice, may be thought too bold, by those who have not seen the rapid progress of the disease. It however happily succeeded, in many instances; and I have candidly stated the grounds on which it was founded, and its various success. In a disease, which baffles ordinary means, the physician must seek, extraordinary resources, and endeavour to subdue by vigour, what would not yield to common expedients.

It

It is probable, that in the courſe of the work, I have made obſervations, which have been formerly made by others on ſimilar ſubjects.—It is not eaſy to avoid this, in medical reaſoning; if it occurs, it ariſes from my ignorance of the authors, for I had not the power of peruſing any books during my reſidence in St. Domingo. It was a duty, I owed to the Army with which I ſerved; to publiſh for their benefit, whatever might enable them to avoid danger, or ſecure their health. To that Army, I owe many obligations, which I ſhall always acknowledge, and remember, with gratitude. If this work contributes to ſave one life, or to introduce a better mode of treating this formidable diſeaſe; I ſhall feel myſelf

myſelf more than rewarded, for my labour.

It is a pity, that Officers in command, do not read ſuch parts of medical works, as treat of the health of ſoldiers. This kind of knowledge, in warm and unhealthy climates, would prove highly uſeful. The General of an army, ought to be well informed, in whatever regards, the Encampment, Diet, or Exerciſe of his ſoldiers. It is not in the power of medical men, to purſue extenſive plans, without the ſupport of the Commanding Officer; they can only recommend, but cannot execute. Their ſchemes of health, are more readily complied with, when the officer underſtands fully, the principles on which they

are

are recommended. The works of JACKSON, PRINGLE, and MONRO, contain valuable information on this ſubject.

Whilſt I venture thus before the Public, I muſt claim their indulgence; I am fully aware of the imperfection of my eſſay. It was written in the buſtle of a few weeks leave of abſence, from the duties of my ſtation; to which I am again ſpeedily to return. The language muſt often offend the ear; and the arrangement is not ſo correct as might be wiſhed. I have endeavoured to ſtate, in the cleareſt manner I could, whatever I thought intereſting or uſeful. I have blended the matter of fact, and my reaſoning, too much together; but my time

time would not permit me to alter this arrangement, which would oblige me to new-model the work. Theſe, and other ſuggeſtions, were made by a friend, celebrated for his talents and learning; who condeſcended to peruſe the work, and whoſe remarks, would inſure it a better reception, if I could avail myſelf of his plan. I truſt this will form ſome apology, for the general incorrectneſs of the performance.

I ſhall conclude, by obſerving, that many practitioners have loſt their patients, by ſearching for definite indications, in the fever of St. Domingo. Time has been loſt, in combating the leſſer effects, or ſymptoms of the diſeaſe. My object has been, to alter, if poſſible, by

ſudden and powerful means, all the circumſtances of the habit, and by this change, to give riſe to a new train of movements. It ought to be ever remembered, that when we overcome any morbid action, in the human body, or ſuſpend its power; that the ſyſtem is immediately diſpoſed, to return to its uſual laws. So that to ſuſpend the action, of a morbid power, in the body, is to afford the ſyſtem a ceſſation from hoſtilities; if I may ſo ſpeak, and to enable it to recover its ancient conſtitution.

Upon the whole, I have endeavoured to make this Enquiry as uſeful as poſſible to the Army, for whom alone it was written.

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ERRATA.

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INTRODUCTION.

THE preſent Enquiry propoſes to inveſtigate the nature and cauſes of the aſtoniſhing mortality among the troops in St. Domingo; a mortality almoſt unequalled in the annals of war, and which has nearly annihilated our army in that quarter, or rendered them incapable of energy and exertion. In this view, it is an enquiry of the utmoſt importance, as the preſervation of ſo many valuable ſubjects is involved in it. The opportunities I have had of obſervation have been numerous and extenſive: a reſidence of nearly three years at Port-au-Prince, which might be conſidered rather as a general hoſpital than a garriſon, enabled me to mark the progreſs of that formidable diſeaſe, which in this country has obtained, without diſtinction, the name of Yellow Fever. At a very early period, I could not help remarking the unequal warfare carried on, in that quarter, between an European army and a people inured to the climate. The European ſoldier, languid and relaxed, from the

exceſſive heat, had to contend with an enemy, inferior indeed in the art of war, but formidable from a frame of body which was adapted to the climate, and derived vigour and activity from that influence of the ſun, by which foreign troops were enervated and exhauſted. In a warm climate, the European ſoldier requires many comforts; but the naked Brigand climbs the tree for his daily food, and ſleeps in perfect ſecurity under the broad canopy of the ſky. A conteſt with ſuch a people muſt be ever tedious, unequal, and uncertain. We cannot purſue them to their faſtneſſes. The neighbouring mountain affords them the ſame protection and means of exiſtence with the one from which they have been juſt driven, and an extenſive fertile country affords them perpetual change. Such a people can only be brought into ſubjection by a treaty, or overcome by an army of negroes, poſſeſſed of the ſame habits as themſelves, but more expert in arms, and led on by ſuch a proportion of European troops as might animate and encourage them. The armies of India are organized on this principle; and I am convinced the armies of the Weſt would become more victorious by ſimilar management.

I believe Sir ADAM WILLIAMSON had in contemplation the commencement, and actually begun this ſcheme of war, which his return to England prevented him from compleating. Under an officer ſo deſervedly popular, and to whom the natives were ſo ſtrongly attached, ſuch a plan would have produced the moſt beneficial effects; the lives of thouſands, who have fallen, not by the ſword of the enemy, but by the climate, would have been ſpared; and the conqueſt of the iſland would become more certain and more rapid. The temporary expence of the eſtabliſhment would no doubt be increaſed; but have they diminiſhed under an oppoſite plan? Do we not incur an enormous expence in the hire of tranſports, and the attendance of ſhips of war to convoy them? and do we not ſuffer ſtill a greater loſs in the deſtruction of ſo many of our valuable troops?

So much I have thought it my duty to ſay on the general plan of our operations. Some Europeans we muſt have there, but their number ought to be diminiſhed, and they ſhould be formed from the veteran remains of the regiments who have already ſerved there, and overcome the terrors of the climate. To ſuch men an additional pay might be granted; no reward

can equal the hazard of the ſervice. I am doubtful whether it would be ſound policy to accept the ſubmiſſion of the Brigands, were they all inclined to ſubmit at the preſent moment; they are too numerous to be truſted; and ſhould they once more bend under the laſh of the planter, their habits of indolence and depredation would ſoon return, and they would again ſigh for licentious idleneſs. Among new negroes they would be ſo many apoſtles of ſedition, and they would ſcatter amongſt them the creed of the national convention; a creed which would make revolt and murder duty, and which would dignify every act of horror with the ſacred name of an enthuſiaſm for freedom. The only ſcheme of ſubduing them appears to me to be, the enliſting great numbers of them into our army, and forming them into regiments commanded by Britiſh officers, or French loyaliſts of approved fidelity. Military diſcipline, without extreme rigour, would beget habits of ſubordination and attachment to their officers; and marks of diſtinction, judiciouſly beſtowed amongſt them, would generate military pride, and an ardour very neceſſary to connect and ſupport ſuch bodies. The reſt, whom we could not employ in this manner, muſt be protected in ſome diſtrict, as free men,

under the auſpices of our government and the guardianſhip of our laws, or they muſt be ſent to ſome other country, or divided and watched among the ſeveral eſtates now to be re-peopled: to exterminate them entirely is perhaps impoſſible, and were it poſſible, would not, I truſt, be recommended by Great Britain, who would not renew the ſcenes which ſtain the Spaniſh annals; ſcenes which deluged the peaceful plains of Hiſpaniola with the blood of that meek and patient race, who were its natural poſſeſſors.

Theſe obſervations, though not ſtrictly medical, are by no means foreign to my purpoſe. My object is to diminiſh the mortality of Britiſh ſoldiers in St. Domingo; and ſuch a plan would more effectually anſwer the purpoſe, than all the medical exertions of the moſt experienced and ſkilful phyſicians. The errors committed in the choice of ſituations for the army, on our firſt taking poſſeſſion at St. Domingo, have been ſeverely felt ever ſince. Miſled by erroneous and intereſted advice, they were conducted to Port-au-Prince, the moſt unhealthy ſpot in the iſland, where they languiſhed and dwindled away without any ſervice to the cauſe they were meant to

 ſupport.

ſupport. Even the advantages gained by the enterprize of the gallant MARKHAM were hardly any compenſation for his own individual loſs, and the many others who periſhed in ſupporting his exertions. A few frigates cruiſing in the Bite of Lugan would have gained more advantages than any force we could ſtation at Port-au-Prince, which has proved the grave of our Army, and which muſt have ultimately fallen into our poſſeſſion.

I ſhall now proceed to the immediate buſineſs of this work; to enquire into the cauſes of the mortality that has diſtreſſed our forces.

CHAPTER I.

SECT. I.

Character of ST. DOMINGO—*Situation of its Towns—Causes of Ill Health—State of the* Britiſh *in Port-au-Prince—Difference between the* French *and* Engliſh *Conſtitutions* —French *Medical Practice examined.*

ST. DOMINGO, from the earlieſt accounts of its ſettlement to the preſent period, has been an iſland remarkably unhealthy. The Spaniſh records bear the moſt unequivocal teſtimony of the rapid and deſtructive progreſs of its diſeaſes, which unpeopled their riſing villages, and diſappointed their precipitate rapacity in the purſuit of many of its favourite objects. Since the French have had a ſhare of this valuable iſland, they have alſo experienced the fatal effects of its climate. It was their policy to conceal the ravages of diſeaſe, and to induce as many as poſſible to colonize and

ſettle in this moſt luxuriant and fertile country. They ſucceeded; and many daring adventurers took up their abode in this fruitful region, from which they ſeldom entertained any wiſh to return to the mother country. Even noble families obtained grants of lands, and ſent their ſpurious deſcendants to occupy them, who, in this new habitation, enjoyed every luxury, and the mimic ſplendor of the nobleſſe themſelves. Theſe adventurers never wiſhed to return; and they accordingly cultivated and adorned their plantations, as the reſidence of their youth and age. This, joined to the fertility of the country, is one reaſon why the iſland of St. Domingo was more highly cultivated than any of ours. The planters and coloniſts of our Engliſh iſlands ſeldom paſs their lives abroad, and look with fond expectation to the day they are again to reviſit their native ſoil; hence their plantations are not ſo highly finiſhed in the culture, nor their eſtabliſhments ſo ſplendid or permanent as thoſe of the French. The Engliſh planter conſults preſent advantage; the French, looks further forward.

The towns of St. Domingo, eſpecially Port-au-Prince, are admirably calculated for

for the purpoſes of commerce. Conſiderations of health gave way to the ſchemes of avarice and the convenience of attaining riches. It muſt be confeſſed, that the French made the utmoſt of every ſituation they occupied, and improved them as far as they were capable of improvement; their ſtreets were wide, extenſive, and open; a chain of virandas, or piazzas, ſheltered from the ſun, connected all the houſes, under which the paſſenger could walk free from every inconvenience: a row of trees on either ſide of the ſtreet refreſhed the eye, and gave a rural appearance to the whole, whilſt ſtreams of water, flowing along, carried off any impurities, which, in ſpite of every care, might accumulate. The French have taken great care to ſupply all their towns amply with water; a great conſideration in hot countries, but which we neglect in our colonies in a remarkable manner. But notwithſtanding theſe endeavours on the part of the French, they occupied ſituations, which could not be rendered healthy by any means they employed. Port-au-Prince is one of thoſe. It is placed at the bottom of an immenſe bite, which puſhes itſelf into the heart of St. Domingo. The ſcite of the lower part of the town is, in fact, on a marſh gained from the

ſea, the ſkirts of which are covered with weeds or mangroves, where decompoſed animal and vegetable matters are promiſcuouſly thrown; on theſe the ſun exerts its power, and the breeze conveys the noxious particles with a new activity to the lungs and boſoms of the inhabitants. But this is not all: the ſea breeze, which in other ſituations is hailed as the genial ſource of refreſhment and health, is here interrupted; the iſland of Gonave is ſo placed in the mouth of the harbour, as, in a great meaſure, to intercept this ſalutary gale; and, before it arrives at Port-au-Prince, it loſes its uſual coolneſs, by paſſing over heated lands, and gathering in its courſe noxious vapours. This neceſſarily reſults from the inland ſituation of the town. Beſides theſe manifeſt cauſes of ill health, Port-au-Prince is expoſed to the action of others. It is placed on a level, on the verge of the bite, and ſurrounded by very lofty mountains, from the bottom of which a horizontal plain ſtretches towards the town. Torrents of water, in times of rain, ruſh through this plain, and retain their impetuoſity till they reach the ſea.

The land is moiſtened, but after the torrent ceaſes the water ſtagnates; ſmall ſtreams,

attaining a horizontal level, lose the impetus acquired in their descent; they linger in the plain, and by mingling with the soil form a marsh. On this marsh a vigorous sun acts daily, and evaporates its noxious particles, which are conveyed to the lungs of every one that breathes, and applied to their skins, and probably in this manner communicate with the blood. This is a never ceasing cause of disease, a nursery constantly rearing mortal poison. In every inspiration, we draw into our bosom a column of air thus impregnated, in every step we walk, a fresh application of these particles is made to our bodies; it is no wonder then, that on this fatal spot the British troops caught fever in each treacherous breeze. It is true, that the French, when they exclusively possessed this town, did not perish in the same proportion with us. The causes of this difference are not difficult to trace; the French possessed a free open country, and could at pleasure retire to breathe the more pure atmosphere of their distant plantations. Every merchant, every planter, in short, every inhabitant, possessed the power of retiring into the country and changing their situation.

In this manner they obviated the fatal effects which would otherwise result from the uniform and constant application of the exhaled miasmata. They were besides amply supplied with fresh vegetables, and every luxury that contributed to pleasure or health. Very different was the situation of the British; surrounded on every side by the enemy, they were imprisoned within the walls of a town half demolished, daily exposed to the sources of disease, and without a supply of good vegetable or animal food. Instead of the cheerful elevation of spirits, which the view of prosperity and peace naturally produces, the British were depressed by every thing that could sink the mind to a state of despondency. In want of the comforts that can render war or exile tolerable, and exposed to an unfriendly sun, they became the daily spectators of death. The constant ravages of fever amongst them spread a general gloom, and weakened the vital powers; a moment of debility is favourable to the invasion and the conquests of disease, and accordingly thousands perished; besides, the British, from the numbers who daily expired, were so weakened, that a large portion of duty was thrown on those who were well, or even convalescent.

Thus

Thus disease, by debilitating and exposing the few who had escaped direct attacks, necessarily perpetuated and increased itself. The French inhabitants were chiefly composed of people born in St. Domingo, and supported by that gradual adaptation to the climate, which habit confers on the natives of the most unhealthy regions. All the English inhabitants were chiefly strangers from northern climates, and little habituated to any warm region. A state of war too exposes all classes, in a besieged or blockaded town, to numerous disadvantages, but chiefly the soldier, who must brave every vicissitude of climate, the frequent changes of each varying night, without the benefit often of refreshing rest or restorative diet. In peace it is otherwise; there is no cause for the same vigilance and perseverance; the soldier carries on his duty with all the comforts of civil life. Port-au-Prince had all the disadvantages of a blockaded town; the soldiers or inhabitants could not change their situation, or fly to the hills from the ravages of disease. Danger surrounded them in every quarter, and they were obliged tacitly to submit to their fate.

The French possessed other advantages. Their

Their conſtitutions ſeem better calculated for warm climates than ours. The manner of life in old France, or its colonies, was not calculated to form that irritable, ſanguine, plethoric habit, in which the effects of inflammation are particularly felt, and in which they proceed with rapidity to a fatal termination. The French, ere they viſited theſe colonies, either for a tranſient or permanent reſidence, were in a ſtate of ſalutary preparation; they took ſeveral medicines calculated to diminiſh the plethoric ſtate; they continued, on their arrival, to purſue a moderate, cautious, and ſober plan of life; the quantity of animal food they uſed was very ſmall; they indulged not in wine, or ardent ſpirits, whilſt the body was kept moderately open, and they were gradually accuſtomed to bear the ſun; the tepid bath too was uſed to cleanſe the ſkin from impurities, and preſerve it open, for the purpoſes of perſpiration, ſo eſſential to health. The Engliſh, on the contrary, who embarked for war, were in every reſpect the reverſe of the French. Their diet, compoſed of large portions of animal food, and amply diluted with fermented liquors, rendered them full and irritable. In this ſtate they embarked; in this

ſtate they landed; ſuperadding the effects of ſalt proviſions at ſea. Inſtead of the preparative and ſober regimen of the French, we are inclined to prolong our convivial enjoyments, and ſacrifice conſiderations of health to gaiety and friendſhip. Some are impreſſed with fear, and imagine that debauches of wine baniſh not only their fears but their danger. This is an opinion fatal to many. They land, and, friend meeting friend, ruſh to the feaſt, where, to uſe the words of ADDISON, " death and diſeaſe lie in ambuſcade among the diſhes." On the early arrival of the Britiſh too, after the long confinement of a paſſage, they run about the ſtreets, careleſs whither, and expoſe themſelves at once to the ſun's moſt powerful influence. Ere habit has imparted its defenſive powers, they are ordered to duties which require activity, and which increaſe the irritability of the conſtitution, and, in this ſituation, as it were betrayed into debility, they are ſeized with fever, which finds them an unreſiſting prey.

In this manner that aſtoniſhing havock, which has terrified and alarmed abroad, and excited juſt fears at home, was created, and continued. If I miſtake not, it will be found,

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on a ſtrict examination, that a tendency to an inflammatory habit forms the baſis on which the Remittent of St. Domingo eſtabliſhes its devaſtation. The ſudden determinations made to the vital organs depend entirely on the energy and irritability of the vaſcular ſyſtem. In the French conſtitution, ſuch derangements do not readily take place, becauſe there is not in the vaſcular ſyſtem either the ſame energy or irritability as in the Engliſh.

The re-action, as it is termed, is weak and feeble in the former; in the latter, is ſtrong and powerful; hence fewer of the French periſh than of the Engliſh, when actually attacked by fever. But this difference in no degree depends on the ſuperiority of their medical practice, which they arrogantly aſſume. It is with pain I am obliged to mention, that I have not met with one French practitioner, on whoſe veracity the leaſt reliance could be placed. Impelled by vanity, and that ſpirit of gaſconade in narrative, which of late fills all their writings, they exaggerate every thing they relate, and, with deliberate impudence, attribute to themſelves the moſt extraordinary talents. Such a charge againſt a ſet of men, profeſſing at leaſt a liberal purſuit, ought to

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be very firmly and well ſupported. I appeal, without heſitation, to every medical gentleman who has practiſed with them in the Weſt Indies, and I do not fear the leaſt contradiction. Equally œconomic of medicines and truth, they committed their patients to a nurſe, and left the iſſue to nature. If there is any thing in the powers of medicine, or in vigorous treatment and preſcription, it is wholly wanting in the French practice. Ptiſans and frequent injections form the prominent features of their treatment. The German dieta aquæa, and large quantities of lemonade, are alſo preſcribed. Camphor, opium, muſk, and æther, are very rarely given; except in the hopeleſs ſtages of fever, and then not in quantities to produce any great effect. I do not deny that the French phyſicians merit praiſe for their attention to a very eſſential part of medical treatment. Nurſing is often of as great importance as medicine, and they have improved it; but they poſſeſs no higher merit. Their plan forms a very excellent part of a ſyſtem of practice, but cannot be ſurely truſted wholly. Let the French and Engliſh modes of treatment be blended and mixed; the vigour of our practice, with the benefit of French nurſing, and the patient will have every chance the

present ſtate of medical knowledge can afford him.

On my firſt arrival at Port-au-Prince, a French phyſician of ſome learning and abilities, almoſt induced me to believe; that he had a mode of treating the Endemic of that country, which generally ſucceeded. Truſting to his converſation, and confiding in his ſkill, I took him to viſit one of my aſſiſtants then under fever; I requeſted he would preſcribe; he took the management into his hands, and the youth periſhed. This would be a ſolitary inſtance of no great weight, as it might happen with the ableſt phyſician, were it not followed by a number of others equally notorious. But the phyſicians always had ſome ſilly ſubterfuge, ſuch as not being called in time, the obſtinacy of the patient, and a variety of other trifling evaſions. But I ſhall not reſt the proof of what I have aſſerted on this alone. Dr. JACKSON, whoſe abilities and learning are univerſally known, and whoſe liberality and candour have been experienced by all thoſe who have ever met him in his profeſſional character; conſigned to the care of a French phyſician, a certain number of the German and Dutch troops. From his pompous and confident aſſertions, much was expected; it

was a fair experiment, and a liberal comparison between French and English treatment. What was the result? On a comparison of the returns from that hospital, the number of deaths considerably exceeded our loss with similar numbers. This was an unequivocal trial, and amply refuted all their exaggeration. The truth was fairly stated, and made them silent.

I would not be thus particular in examining the proceedings of the French physicians, had not they, in the most illiberal and shameful manner, propagated unfounded reports relative to English practice. They boldly asserted, that the English physicians and surgeons, killed their patients, and were ignorant of their profession. Such a report, industriously circulated, had bad effects; it diminished the confidence of the troops in the medical staff; and confidence is of the utmost consequence, as it supports the mind, and elevates it with hope. They were not contented with scattering these rumours at St. Domingo, but they also wrote home, and addressed an anonymous letter to the medical board, and even put paragraphs in our papers, all tending to lessen the confidence of the British in the medical officers who attended them. I trust I shall be excused for entering

into this detail, and ſtating the queſtion fairly. Every one will allow that there is ſomething to be learned in the diſeaſes of every country by being on the ſpot, which neither deſcription or reading can ſupply; nor can it be ſuppoſed, where human lives are at ſtake, that any one would for a moment heſitate to adopt the plan of others, where it promiſed any hope of ſucceſs. The man who from pride, prejudice, or illiberal rivalſhip; would reject improvement, or deſpiſe knowledge, ought to be expelled ſociety as a monſter, who would ſacrifice the human race to his unfeeling vanity; but in no place was improvement more likely to be adopted, than St. Domingo, where, unfortunately, all our plans of treatment had but little ſucceſs.

The medical ſtaff of that iſland was compoſed of men of liberal education, and to whoſe attention the army will bear teſtimony; it was not likely that ſuch men would ſacrifice, to an illiberal prejudice, the lives of their countrymen, endeared to them by acquaintance, and by common hardſhips.

It might be ſuppoſed, and in fact it was given out, that St. Domingo, before our arrival there, was by no means unhealthy; and

that their garrifons fuffered very little. In this declaration the French phyficians exulted; but they attributed the difference entirely to their own fkill and fuperior management. We have already feen how much credit is due to their affertions; and in this, as well as in moft inftances, they will be found falfe. Every body knows, that St. Domingo was always unhealthy. The moft falubrious and beft climates have their periods of difeafe; there is no country yet known that can boaft an exemption from thefe laws of nature. It has been already ftated, that the French fuffered lefs than we have done; but the fame fever, which has fwept off our troops, raged alfo in the French garrifons, and made great havock. There cannot be a ftronger proof given of the mortality of the French troops, during the old government, than their being obliged, every three or four years, to renew the garrifons with 10,000 men. What became of thefe troops? few of them ever returned to France. They became victims to the fever of the ifland. When the revolution begun its horrors, it was not in the power of that convulfed nation to fend the ufual fupply to St. Domingo; confequently the former garrifons were greatly diminifhed;

and, in fact, we found very few of the veteran troops of Old France to oppose our views or progress. I have been thus full and explicit, on the former state of this island, to disprove the false assertions of the French physicians, and refute insinuations equally unfounded and illiberal; but which, by creating despondence and fears, and lessening confidence, might produce the worst effects.

Hispaniola has always been, and I fear in a certain degree will always continue, unhealthy; but our further progress into the country, by enabling us to change our situation, by varying the scene, by amusing and delighting the senses, and being enabled to procure a more wholesome diet, may yet dispel our fears, and inspire more confidence. Such a change would gratify the feelings of humanity, and be particularly pleasing to those who have witnessed the distressing scenes of our early operations in that island. I shall proceed in the next section to examine more particularly the mode in which the fever is produced, and the manner of its operation on the human body.

SECT. II.

Further Conſiderations on the Cauſes of Ill Heath —Miaſmata conſidered, and the Effects of Moiſture—The Effects of Debility on the Vaſcular Syſtem—Determinations ariſe from Debility—Chemiſtry the great Source of Improvement in Medicine—Yellowneſs not always cauſed by Bile.

IN enumerating the general cauſes which produce, or rather diſpoſe, to ill health, at St. Domingo, I omitted to mention the Land Winds, which prevail more particularly in June and July, but are more or leſs felt throughout the year. Theſe breezes blow in the morning, and have a pleaſing coolneſs at an early hour; but they ſometimes continue for days, and even weeks, and as the day advances become hot, drying, and unpleaſant, reſembling the *Siroc* of Naples. Theſe winds ſuddenly check perſpiration, the great ſource of coolneſs and health; the ſkin becomes parched and dry, and there is uſually a ſenſe of oppreſſion

in breathing, and a tendency to ſigh. Theſe winds very generally excite fever, and bring on paroxyſms anew, in convaleſcents. The French ſhut their doors and windows againſt them, and go out as little as poſſible whilſt they prevail; but their effects are ſenſibly felt.

Let us now examine the cauſes, which more remotely ſeem to produce the fatal fever in queſtion. It would ſeem that it ariſes from elaſtic fluids, miaſmata, or vapours, applied to the human body, either through the medium of the lungs or ſkin, or perhaps ſwallowed with the ſaliva. This opinion is rendered probable, by obſerving that the fever ariſes more frequently, and proceeds with more ſeverity, in ſituations where a briſk evaporation from ſtagnant marſhes is going forward. It would ſeem that rain, ſimply as ſuch, or dew, do not produce any derangement in the human ſyſtem, except what may ariſe from ſimple obſtruction and the effects of cold. I have myſelf been expoſed to the dews, without the means of ſhifting, for two nights and upwards, when a priſoner with the Brigands, without feeling any inconvenience. Doctors JACKSON

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and MASTER were ſimilarly ſituated, without any bad conſequence; and in coming from Jamaica to St. Domingo I have ſlept ſeveral nights on deck, with a very ſlight covering; I never found any illneſs reſult, though I have been wet for ſeveral hours. The longer, water has been incorporated with the ſoil, without freſh rain, the more virulent and dangerous the miaſmata become. Thus, the ſeaſons in which rains prevail are found more healthy than when dry weather has continued for any time: in the firſt caſe, the rain is again evaporated before the ſoil has imparted its pernicious qualities, but in dry weather it has remained, ſo as to acquire the fatal activity it exerts on the ſyſtem. In what manner the action of the ſun, and the admixture of a certain ſoil, produces this activity, can perhaps, ſcarce be explained in the preſent ſtate of chemical knowledge. It muſt be admitted too, that fatal miaſmata ariſe where there are no very certain appearances of a marſhy ſoil. The Mole and St. Mark's, do not appear ſurrounded with marſhes, yet the fever reigns in both theſe places with great activity. Miaſmata may certainly be wafted with the land breezes in ſome activity to a conſiderable diſtance; they

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are undoubtedly more powerful the nearer they are to their ſource, and in time become changed by admixture with the atmoſphere and diſtance from their origin. Thus ſhips, lying in harbour at a certain diſtance from the ſhore, are liable to the fever of St. Domingo, but if they go to ſea, or cruize at a greater diſtance from the land, the crew become more healthy, and leſs obnoxious to diſeaſe. It is not to be doubted but the ſun acting on moiſture, almoſt in any ſoil, will produce diſeaſe. The grand defect in our knowledge, ariſes from our being ignorant of the particular nature, of the elaſtic fluid or miaſma; which ariſes from marſh. If this point was once aſcertained, we could reaſon on the varieties produced by a difference in the ſoil, and the leſs or greater action of the ſun; ſo as perhaps to throw ſome light on varieties in diſeaſe, which ſeem to ariſe from theſe cauſes. How theſe miaſmata or vapours produce their effects on the body is not diſtinctly known. Let us attend to the phænomena which they produce, and try to account for them on principles already aſcertained, or rendered highly probable, from the phænomena themſelves.

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The firſt evident effects are, debility and languor in many of the important functions of life. The vaſcular ſyſtem, in ſome of its ſubordinate diviſions, appears greatly weakened; for although there ſeems a degree of excitement and action, yet irregular determinations of blood take place to various important organs, ſuch as the head, ſtomach, liver, and lungs.—Determinations of blood cannot happen to any particular organ without debility in ſome part of the vaſcular ſyſtem, which deſtroys the balance eſtabliſhed for a juſt circulation between the propelling power of the heart and the reſiſtance of the arteries. In ordinary caſes, where the propelling power of the heart is not altered, if there is any weakneſs in a particular ſet of veſſels, a determination happens; but in caſes of fever, whilſt the veſſels ſeem to loſe greatly their reſiſting power, the energy of the heart is remarkably increaſed. From this cauſe the danger of determinations during fever is greatly augmented. In what direct manner all this is produced eludes at preſent our keeneſt reſearch. It would ſeem, at times, that the miaſmata attacked at once the very principle of life; from the beginning, in ſuch caſes, all energy is ſubdued, and the ſufferer gradually periſhes

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under a ſenſe of oppreſſion only, and a ſlow diminution of animal powers.

Many inſtances of this kind occurred, which at firſt flattered the unexperienced ſpectator, but which ſtruck the attentive obſerver with impreſſions of the greateſt danger. Where there is a ſenſe of pain and a re-action, the ſtock of ſenſibility and vital energy, is yet entire, and may be acted on with ſome hope; but where theſe are greatly impaired or ſubdued, the cauſe of the diſeaſe is powerful, and will in general be victorious. In proportion to the utility and neceſſity, of any organ to the maintenance of life, will be the danger of a determination to it; thus the brain, the lungs, and the ſtomach, as being highly neceſſary to ſupport the living phænomena, are the moſt dangerous ſeats for theſe derangements. In the brain, either its direct functions are deſtroyed by ſubtile cauſes, or by more evident preſſure from effuſion on it, or by the deſtruction of its organization. The ſtructure of the lungs is frequently deſtroyed by the ſudden progreſs of inflammation, which, by diminiſhing their capacity, and the eaſe with which their eſſential functions are performed, has a direct tendency to deſtroy life, which we

ſeem to renovate and ſtrengthen from this wonderful organ. But beſides the direct influence the lungs have on the vital principle, any impediment in their functions creates new determinations in the blood, and extinguiſhes life by the ſlow progreſs of partial diſeaſe.

The ſtomach, the moſt important ſupport of all our functions, becomes, in the fever of St. Domingo, a principal ſeat of determination. Very early in the diſeaſe, an immenſe quantity of blood fills its veſſels, inflames its inner coats, and begets in it a ſenſibility and irritability almoſt incredible. In vain it is attempted to throw in any medicine, in the the moſt ſoothing or lenient forms; the moſt grateful cordials, and the moſt inſipid liquids are thrown up with a celerity equal to an exploſion. The effort to reject is made before any thing almoſt touches the ſtomach. Theſe efforts to reach are continued often till death. From the great determination of blood, and the violence of the action in the veſſels, immenſe ſecretions are made in the ſtomach, which, acquiring there a dark colour from the admixture of other fluids, and perhaps portions of the coats of the ſtomach, is called

called the Black Vomiting, generally a very fatal preſage of the event; at length the coats themſelves are ſeparated and detached, and a mortification, affording a temporary ſuſpenſe from agony, cloſes the cruel ſcene.

During this progreſs there is little remiſſion; but in general a ſlight abatement of the ſymptoms occurs towards noon, and an exacerbation ſoon follows. What ſecret law of the animal œconomy influences and determines theſe periods and fluctuations of fever are not at preſent, nor perhaps ever will be known. In ſome inſtances, where one paroxyſm has finiſhed the diſeaſe for a given time, the whole would appear to reſemble a chemical proceſs, where a certain time was required to complete it; but the ſubſequent renewals, and the ſimilarity of the ſucceeding exacerbation, obliges us to abandon ſpeculative opinion, and confeſs our ignorance. In violent and rapid caſes, where a ſudden recovery has happened, it has ſometimes been preceded by a tormenting intolerable pain in ſome particular finger or toe; at laſt, a livid ſpot, with an extended roſy baſe, makes its appearance, and the diſeaſe is gone; as if a certain chemical combination had happened, and

and the result had escaped by a silent but vigorous effort, like the electric fluid.

On the discovery of the real nature of the marsh miasma, of the various circumstances which affect its condition, on which its strength and noxious powers depend, is founded the future improvement of this intricate part of medicine. That new chemical combinations are formed, destructive to the principle of life, no one will deny, who has seriously thought on the subject; in no other way can the sudden derangements be in any manner accounted for. The mechanic effects of miasmata would, from their very nature, be imperceptible, and, though we are utterly ignorant of the direct chemical changes or processes, yet it may be inferred, with more probability than any other supposition, that they really exist. Chemistry is now unfolding more intimately the nature of the animal fibre; and if human abilities, aided by science, promise any light on subjects which nature has involved in darkness, we may entertain some hope of improvement. —But chemistry mourns the death of LAVOISIER, of him, whose labours made it a new science; and promised to scatter light over the

the darkeſt inveſtigations. The loſs of a man, who devoted his time and fortune to the moſt enlightened purſuits, with ſo much happy ſucceſs, and perſeverance, will be felt by future generations, and will deſcend to poſterity as one of the great ſtains of the revolution.

Many appearances induce us to believe, that very conſiderable changes go on in the fluids. The ſudden appearance of livid ſpots, the oozing of blood from all the mouth, and its rupture from the noſe, cannot be accounted for from the ſolids only; both are uſually affected, and muſt be ſo from their very intimate connection, and ſtanding in the relation of affecting each other, as cauſes and effects of many phænomena.

The yellowneſs, which is certainly no favourable appearance, and gives a peculiar name to the fever, does not always ſeem to depend on the mixture of bile with the blood. It is not eaſy to ſupport the opinion I am about to offer, becauſe the facts which would render it clear are not eaſily obtained. The ſame opinion was formed by my friend, Dr. MASTER, before we had ever converſed

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on the ſubject, and on the ſame grounds. The yellowneſs appeared to us, to ariſe from a change effected in the colour of the ſerum, dependent on a peculiar action in the veſſels; becauſe jaundice, or a mixture of bile with the blood, is not in itſelf a diſeaſe ſuddenly fatal, or even very formidable; and becauſe, jaundice comes on frequently towards the cloſe of the fever, without producing any danger; nay, it is rather a favourable criſis; and in caſes where recoveries have happened, in the yellow fever, as it is termed, the tinge in the ſkin has continued for a long time without any other of the ſymptoms which uſually characterize, or more immediately attend, jaundice. Diſſections have not ſhown, in fatal caſes, any great derangement in the biliary ſyſtem; no calculi and little preternatural diſtenſion or obſtruction; beſides, the yellowneſs comes on very ſuddenly, and to its fulleſt extent.—There is indeed a gradation as to the places where it begins, before it ſpreads univerſally; the progreſs of it, however, is different from jaundice. The veſſels of the eye, give generally the firſt alarm of that diſeaſe; and the onyx of the nails, becomes very ſoon affected; but in the yellowneſs accompanying the Remit-

tent of St. Domingo, a different progreſs is obſerved; the neck, in the courſe of the jugulars, the cheeks, in an angle from the noſe, forming ſtreaks, give the firſt intimation; yellow tinges paſs along the breaſt and back irregularly, and the feet are often deeply coloured before the reſt of the body is materially affected.— Where the veſſels of the eye have been much ſurcharged, ſo as to reſemble the commencement of real jaundice, with other ſymptoms proper to that diſeaſe, the event has proved, in general, more happy. I have thought too, that the ſhade of yellow which attends the Remittent of St. Domingo is different from that which accompanies jaundice; perhaps this is a fanciful difference; but what I have ſtated would ſeem to indicate ſome peculiar ſtate of the blood, independent of bilious admixture: future obſervation may throw more light on the ſubject.

Upon the whole then, it would appear that miaſmata, or particles of elaſtic vapours, riſing from the earth, in the condition called marſh, and acted on by a very vigorous ſun, are the remote cauſes of the Remittent of St. Domingo; and that they enter the human ſyſtem, either by the veſſels of the ſkin or by the lungs, or mixed with the ſaliva; that there

there they produce ſeveral morbid phænomena or derangements, probably by forming new combinations with the ſubtile elements of the fluids and ſolids, and thus become noxious and deſtructive, by deranging the peculiar organization which produces the living condition. We muſt lament our ignorance as to the particular mode of operation, but we may obſerve certain circumſtances which ſtrongly influence the iſſue of the diſeaſe or derangement. To mark theſe is to make ſome progreſs. It is true, that I have heard practitioners chatter about diſeaſes with the ſame facility they ſpoke of any common incident; they had a cauſe at hand to explain every ſymptom, and a remedy, with a ſtring of certain effects to reſult from it; to uſe the expreſſion of an eloquent writer, "they ſeemed "to have been in nature's cabinet council:" but from ſuch men little can be hoped; we are all, it is true, in the twilight of knowledge; we ſee to a certain diſtance, beyond which all objects appear confuſed, and blended, and I would not readily believe him who would aſſert he ſaw diſtinctly beyond the common limits of viſion. In the next ſection we ſhall continue to take a further view of the fever and its phænomena.

SECT. III.

Plethoric Habit dangerous in the Remittent—Young Men more expoſed to danger than others—Women and Old Men eſcape the Fever—Practical Inferences from theſe Facts—Scheme of recruiting Men at an advanced Period of Life.

IT was remarked in the ſecond ſection, that a habit full, irritable, and plethoric, afforded the Remittent of St. Domingo an opportunity of manifeſting its utmoſt violence: I ſhall now proſecute this opinion, and deliver the reaſons which led me to entertain it. I have already obſerved, that irregular determinations, founded on a diminiſhed energy in the veſſels of ſome part of the ſyſtem, were the firſt effects of the application of the miaſmata to the human body; the conſequent derangements in the organs, to which theſe determinations are made, form the danger; the violence of re-action in habits diſpoſed to inflammation is always dangerous, either by aiding the general ſtate of diſeaſe, or by producing the direct conſequences of inflammation, or rupturing ſmall veſſels.

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I have ſeen many corpulent people in the Weſt Indies, who have endured the climate well, but had not all the characteriſtics of the habit I have been deſcribing, as rendering the Remittent dangerous. I have founded my opinion, of ſuch conſtitutions being particularly unfavourable, on the following conſiderations:—Firſt, by obſerving always, that when the fever invaded ſuch habits, that it was rapid, ſevere, and violent: ſecondly, by remarking that young men, from the age of fifteen to twenty-five or thirty, the irritable and plethoric period, were more ſeverely affected than thoſe more advanced in life: and thirdly, by obſerving that old men, from ſixty to eighty years of age, ſeem as it were to renew life, and enjoy health in warm climates, better than in any other ſituation; and when they happen to be attacked with fever, it proceeds with little violence, to a happy termination. Women too are exempted from the violence of fever, except in particular inſtances, where intoxication has produced the irritable and plethoric ſtate. Females then, and old men, who are in a condition of body directly the reverſe of the plethoric and irritable, do not by any means run the ſame riſque when attacked by this fatal remittent. It is fair

then to conclude, as it is moſt deſtructive in the young and plethoric, that ſomething in that ſtate conduces to this fatality. The eaſe with which determinations are made in theſe habits to particular organs, and the violence of re-action, ſeem to me to be the chief ſources of danger. In old men the fibre is relaxed, and a new condition brought on, reſembling the ſtate of youth; and, in fact, they become fat in warm climates, and more cheerful; a new energy is infuſed in their conſtitutions, and life prolonged beyond its expected period. Theſe changes would ſeem to be produced by the relaxing powers of heat, and ſome ſecret vital energy connected with it. Relaxation and irritability, to a certain degree, are the peculiar characteriſtics of the juvenile fibre. How habit, or nativity in particular climates, operate ſo as to prevent diſeaſes, cannot be explained on any certain principles; we can only acknowledge our ignorance, by ſaying, that nature calculates the ſpecies for the regions they inhabit, or that we gradually acquire conſtitutions ſuited to the climate in which we may be placed.

The doctrine I have been diſcuſſing would be of little uſe, unleſs ſome practical inferences could

could be made for the benefit of our troops. If I am right in remarking, that a habit disposed to inflammation, from its peculiar circumstances, is in a dangerous condition, when attacked by the fever of St. Domingo; it will follow, that the troops who are to serve in that country, ought to be made up of men, at a particular period of life: such men too, have the advantage of being well disciplined; their morals are established, and their passions calmed; and they are in every way fitted, for that kind of service; whilst the younger troops, are left at home to be formed and regulated. Men from the age of thirty-five, to fifty years, are in a condition to act in St. Domingo; whilst our youth would be spared and sent to garrisons, where they would be gradually inured to heat, and enabled at a future period to undergo the fatigue of the warmest region. This plan would be of the utmost importance; the elder part of each corps might be thus drafted, and proceed with some confidence to their station. Men, who in colder climates begin to lose their activity and strength, would in St. Domingo be in some degree renovated and rendered again serviceable. By this means the inactive period of life would be rendered useful, and the young and vigorous kept at

home, where their ſtrength could be moſt happily exerted. I truſt this ſcheme will challenge the attention of our Government; it will prevent many untimely deaths; the ſervice in every view will derive benefit; it will have men on whom ſome reliance can be placed, when duty requires them to act, and our youth will be ſaved from the almoſt certain deſtruction of the climate.

When regiments are thus formed with a view to the Weſt India ſervice, they would be ſtill more improved and protected by reſiding in warm, but more healthy regions, before they embark for the Weſt. Gibraltar would afford them a mild ſeaſoning; their veſſels would become habituated gradually to expanſion, and the ſkin would be rendered lax and open for perſpiration. A period might thus be put to the devaſtation of that climate, and ſcenes, the recollection of which ſhocks humanity, would in a great meaſure ceaſe.

Before I quit this ſubject I ſhall juſt remark, that men at the age of forty years, ſeem to me very well able to ſuſtain ten years ſervice in St. Domingo; and as all our garriſons are relieved in a leſs period, they would poſſeſs

ſufficient vigour of habit to go through every toil. In regiments thus organized it might be proper to reward the ſervices of men, who had acted with reputation as ſerjeants in a warm climate, and give them promotion. The men of character would thus have ſomething to hope for, and their good conduct would meet encouragement in their profeſſion; above all, the Weſt India ſervice would be carried on with ſucceſs: at preſent, neither military talents nor numbers are of uſe; our hoſpitals contain our garriſons, and the few who carry on duty are languid and convaleſcent; they are not fit for enterprize or hazard; and nominal armies will never atchieve conqueſts.

SECT. IV.

Cauſes which retard Medical Improvement—Surgery and Medicine compared—Of proximate Cauſes in Diſeaſe—Our Ignorance of theſe prevents Improvement.

I SHALL now proceed more directly to examine the Fever, and endeavour to aſcertain its claſs; but before its particular hiſtory is unfolded, and the practice is deſcribed, it will be neceſſary to take a view of the ſtate of

of Medical Knowledge. I have founded my practice on our ignorance of Proximate Causes and the positive nature of fever; and it will be necessary to show the real state of that question, before the principles which guided me are understood.

In all medical researches, we have to encounter those obstacles, which render investigation so difficult, in a science, of which the principles have not been hitherto ascertained. The indolent have abandoned a pursuit so arduous, and adopted the reigning systems of the day. The success of the learned and ingenious has by no means been equal to what might be expected from their talents or industry. Medicine, from the days of HIPPOCRATES, has been a system of varied conjecture, which has changed its aspect in almost every age; each century presented to the student novel doctrines, which in their turn made way for others. These changes were influenced frequently by the progress of natural philosophy, especially by chemistry, but more commonly by the ingenuity or caprice of medical professors. It is fortunate, that amidst these fluctuations of opinion and theory, practice was not much disturbed; it held an even course nearly, and though different

ferent views were entertained as to the mode in which medicines produced their effects, yet the ſame preſcriptions and mode of treatment obtained amongſt phyſicians whoſe theoretical tenets were very different; on other occaſions a peculiar practice was purſued by individuals, very oppoſite from what might be expected from the theory they maintained. This was particularly the caſe of SYDENHAM, as Dr. JACKSON clearly points out. There can be no doubt, however, that a more philoſophical and rational manner of inveſtigation has been purſued by the moderns. Facts have been more accurately obſerved, and experiments made with more preciſion; the laws of the living body have been more attentively examined, and the principles of philoſophy are applied with more caution to animated matter; theory too is made to reſult from a careful obſervation of facts; it is what it ſhould be, an induction, and not a pre-conceived doctrine.

The circulation of the blood, as aſcertained by the immortal HARVEY, throws light on many of the ſymptoms which occur in diſeaſes, and of which the ancients muſt have entertained abſurd notions. The progreſs of time and accident have put us in poſſeſſion of many

many valuable remedies totally unknown to the earlier phyſicians; and the wonderful aid of chemiſtry is likely to unravel the myſterious laws of the animal œconomy, and throw light on many obſcure phænomena both of health and diſeaſe. The chemiſts too have put us in poſſeſſion of many active powers, with which the human ſyſtem may be affected, ſo as to produce changes; and the analyſis of various ſubſtances, has wonderfully extended our knowledge and increaſed our power. The numerous diſcoveries in anatomy have improved phiſiology and ſurgery; we have more accurate notions of the ſeats of diſeaſes, and we can explain more fully the operation of morbid cauſes. The intercourſe between various countries, and the cheapneſs of printing, have increaſed in a remarkable manner our ſtock of facts. The experience of celebrated men, and their obſervations on the diſeaſes, climate, and habits of particular countries, thus become a general property in medicine, and may be peruſed by every one who has induſtry or curioſity. In this manner we are furniſhed with valuable materials, which may be examined and compared, and from which we may draw important and uſeful concluſions. The general progreſs of ſcience has no doubt contributed to the

the improvement of medicine; but, above all, the institution of societies and hospitals has contributed to correct and enlarge medical knowledge over Europe. In society, the powers of the mind are called into action, doctrines are minutely examined, the ambition and industry of individuals are not restrained by the terror or authority of teachers; opinions are compared, latent facts are brought forward, and the general result is published for public inspection. The records of celebrated universities will bear ample testimony to the benefit of medical associations; hospitals too are great schools of practice, where numerous cases enable the physician to generalize, and from a multitude of facts to draw useful conclusions; it is in such institutions that medicine may receive real improvement; the physician, free from the fetters which private practice generally imposes, and which the most celebrated cannot shake off without prejudice to their reputation, proceeds with more boldness to experiment and innovation, which, under judicious management, may be pursued without alarming the feelings of humanity. It is to the prejudices of mankind and the fears of practitioners we attribute

tribute the ineffectual routine of physicians, who, fearing the loss of emolument or employment, dare not venture out of their trammels. To this cause alone may be ascribed, in a great measure, the slow progress of practical knowledge.

Upon the whole, however, Medicine has been slowly improving from the days of HIPPOCRATES, though by no means in proportion to other sciences. It may be useful to consider the peculiar causes which retarded its progress; for we find, both among the ancients and moderns, that men of great talents and industry applied themselves to medicine; there must therefore exist some insurmountable obstacles in the science itself. Experiment is the source from which, in other sciences, true or definite knowledge is obtained. In order to attain this knowledge, it is absolutely necessary that the subject on which the philosopher operates, remains in a given or known state, or that its modifications and changes be ascertained by a certain infallible rule. Secondly, in generalising our experience from a few objects of any class, so as to develope the nature of the whole, it is necessary that the few we have examined,

mined, comprehend the laws and nature of all that tribe of objects. If this is not the case, no just inference can be made from the few to the many, nor will experience be useful or extensive; but when the nature of a whole class of objects can be precisely ascertained, by experiments on a few subjects of that class, then, the philosopher can extend his conclusions to the whole class, which he may not have individually examined.—Because, experiments, repeated and confirmed on a few subjects, have ascertained the laws of a whole class, whose essential properties, so far as regarded his conclusions, remained fixed and immutable. It was thus that the immortal NEWTON proceeded, and from the simple laws of gravitation ascertained the complicated motions of the celestial bodies; in this manner other sciences advance more or less rapidly, but with a degree of certainty approaching demonstration.

In medicine, however, although physicians have appealed to experiment, and made conclusions, yet it will appear that their inductions can never be so precise and decisive as in other sciences. When we examine the influence of experience on practice, we find it general,

general, though the principles which regulate that influence are loofely and inaccurately afcertained. After all the pains a phyfician may take, in comparing, examining, and difcerning in what conftitutions agree or differ, he will be liable ftill to error from the dubious outlines which difcriminate different habits, and the indefinite laws which belong to individuals. This reafoning applies to medicine as a fcience. Surgery is very different. Whilft it prefcribes rules for operations, and difcuffes the beft plan for reducing a luxation, or curing a fracture, it is a refpectable and ufeful art, becaufe fuch reafoning is founded on the almoft unvaried ftructure of human bodies; but when it deviates into medical reafoning, not founded on thefe fimple principles, it degenerates, and becomes lefs refpectable, becaufe more vifionary and uncertain. But to return:

If the nature of the bodies on which the philofopher operates, be either abfolutely different each from each, or conftantly changing, and if one or more bodies do not contain the collective qualities of the whole, experiments made on a few will by no means be conclufive. In fuch cafes human know-

ledge will be always imperfect. But thus it is in medicine. No number of human bodies possess in all respects the same assemblage of properties; these are diversified by endless modifications. The delicate nature of the human system, the difficulty and danger of making experiments, the impossibility of ascertaining their precise effects, the mysterious phænomena of life, the action of animated matter, its relations and dependencies, form such a chaos as confound and obstruct research; experiments, which in other pursuits may be extended and multiplied, are here limited; and inductions, made under certain restrictions and conditions, cannot be wholly trusted. The human frame, though regulated by some general laws, which belong to the species at large, is also subject to the influence of peculiar ones, which affect the individual only, and which are not the same, perhaps, in any two of the species; hence an experiment, made on a few individuals, and applied generally, must necessarily lead into error. If animal bodies were guided and regulated by general laws only, and never affected by the peculiarities which belong to the individual, then similar powers, applied to such body, would always produce similar

effects, and a just induction could be made from a few to a great number, indeed to any extent; but human bodies are governed each by its own laws, termed by physicians its constitution. The shades, however, which mark and discriminate variety, are frequently so obscure as to elude the most acute observer. From this difficulty much confusion arises in practice. Facts remain as such with respect to individuals, but are not solid foundations of reasoning in other cases, to which they do not fully apply, from some subtile unknown difference in the constitution of each, and yet the circumstances may have been extremely similar. Some diseases, essentially different in their nature and causes, exhibit phænomena so similar, that the most sagacious observer is apt to be misled, and thus the efforts of the physician become pernicious or useless.

Similar causes too produce great variety in the effects, as applied to different bodies, according to the peculiar disposition of each. Hence diseases essentially different in themselves, and produced by different causes, are apt to be confounded; and diseases essentially the same, or produced by the same causes,

causes, are judged to be different. Of the first class, continued fevers afford numerous proofs, and remittents and intermittents are examples of the second. The treatment accordingly must be often improper, from the difficulty of discriminating. Our best medical records do not afford complete histories of morbid phænomena; because the circumstances in which the difference of diseases often consists are very minute, and do not readily admit of description. Language has not epithets sufficiently accurate or delicate to impress subtile shades, which the eye of the immediate spectator can hardly catch. I have known physicians predict very exactly the issue of a disease from the general aspect of a patient, and many minute appearances, which they could not possibly describe in words, so as to make another fully comprehend the foundation of their opinion. The physician cannot follow the plan of the natural philosopher; the latter can multiply his experiments on matter, to make extensive and general conclusions; but the former is opposed in his career by the moral and civil institutions of society. If he descends to the brute creation, and seizing a chain of analogy, transfers his induction from the one to the

 other,

other, he will be liable to error: the conſtitution and habits of the inferior animals are ſo different from ours, that no ſtrict concluſion can be made from experiments entirely confined to them; they cannot be interrogated as to the effects of the powers the phyſician employs, and our judgment of their apparent feelings muſt be frequently erroneous. We apply powers to affect a body, whoſe eſſential properties are not by any means underſtood. The nature of the animal fibre, except a few of its phænomena, is totally unknown to us; that elementary conſtitution, which gives it ſingular and wonderful properties, has hitherto, and may probably for ever elude reſearch; and when we ſpeak of applying powers, which are to change its peculiar ſtate, we talk a language which philoſophy ought to reject.

From our ignorance of the eſſential nature of animated matter, we neceſſarily reaſon falſely regarding the direct changes produced in it, either by morbid cauſes or medicines. Remote cauſes of diſeaſe often elude the power of the ſenſes; but when they are viſible, and ſubject to examination, as in the matter of the ſmall-pox, we know very little of their mode

mode of acting; we remark, indeed, a number of unaccountable phænomena follow their application to the living ſyſtem, but that is all.

Such are the boundaries which it has pleaſed the Author of Nature to affix to our reſearches. The effects of medicines then muſt be in ſome degree vague and uncertain; but medicines are the power by which the phyſician hopes to produce changes, or alter the morbid condition. If, however, the ſtate of the animal fibre is unknown, it will be impoſſible to modify with preciſion the power which is to change that ſtate. It is not ſurpriſing then that medicine ſhould ſo long be a conjectural ſcience. The unmarked variety of conſtitutions contributes greatly to embarraſs our purſuits. If we poſſeſſed a ſcale, which, graduated like a thermometer, would expreſs the varieties of conſtitutions, then might a regulated and uſeful experience be expected; but, upon the whole, when we conſider fully the numberleſs obſtacles peculiar to medicine, it is aſtoniſhing what progreſs we have made. It is unreaſonable and uſeleſs to expect in medicine the ſame fixed and invariable principles which reſult from experiment in other ſciences. Whoever directs his attention to

the healing art, muſt content himſelf with probability; if he expects to develope or meet certain and immutable principles to guide his reſearches or extend his concluſions, he will be diſappointed. Let us take medicine as it is, nor look for what in the nature of things cannot be attained: it has no fixed principles as a ſcience, nor any pretenſion to demonſtrative evidence. The experience of medicine may ſtill be rendered uſeful, and the healing art be placed among the purſuits beneficial to the human race.

It has been queſtioned, whether, on the whole, the practice of phyſic has diminiſhed the ſum of human ſufferings, or prolonged life. I, who am willing to give to medicine its full rank, believe it may have contributed to both; but if, on a ſtrict examination, it ſhould only appear to have merely alleviated pain and diſtreſs, even then, it has a ſtrong claim to the attention of mankind. It is aſtoniſhing that an art, which profeſſes the diminution of pain and diſeaſe, ſhould have, in all ages, received ſo little encouragement from government. In the preſent century men have ariſen, gifted with acuteneſs and judgment, who have greatly diſtinguiſhed themſelves;

they have opened the road to truth, and presented to the physiologist views the most interesting and extensive; they have pursued plans of investigation, which promise success, and may ultimately develope the mystic laws and constitution of life. In this walk, DARWIN and BEDDOES, hold the first rank; the talents of the latter have been generously exerted, to banish the terrors of the young and beautiful, in the defeat of a tremendous disease. Let us hope that some fortunate genius may yet arise to dispel the remaining darkness which surrounds us, whose bold and decisive talents will bear down all opposition and difficulty, and in the midst of prejudice rear the durable monument of truth.

Having now pointed out the chief obstacles to medical improvement, I shall proceed to examine our knowledge of Proximate Causes.

CHAPTER II.

SECT. I.

The Difficulties of preſcribing by Indication—Abſurd Reaſoning on ſuppoſed Proximate Cauſes—Morbid Action conſtitutes Diſeaſe.

IN obſerving practice, I have remarked, eſpecially in fevers, the vague and fanciful views of preſcription, founded on indications. It appeared to me, that without ſome knowledge of the Proximate Cauſe, and its mode of operating, we only loſt time in combating effects, the ſource of which was wholly unknown to us. This rendered practice very inert. The phyſician became either an idle ſpectator, or interfered in a manner that promiſed little ſucceſs, whilſt the diſeaſe proceeded in its courſe with little interruption. The hiſtory of fevers, from the days of HIPPOCRATES, exhibits only a humiliating account of idle theories and uſeleſs ſyſtems.

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The ancients blended with their doctrines obscure notions from the reigning philosophy, nor have the moderns been much more happy in their investigations. Fettered by a blind veneration for antiquity, as if age could sanction error, they copied the absurd notions of their predecessors. Few of the moderns have any claim to originality; the features of their systems may be traced in the pages of GALEN, and in the writings of ARITÆUS and AVICENNA. The late Dr. BROWN, though by no means a popular character, exhibited to the public the first philosophical attempt of any consequence in pathology; his fate, and that of his labours, have been justly and pathetically described by Dr. BEDDOES; but although his system is by no means free from errors, it is the most comprehensive and enlightened that has yet appeared.

Fevers, however, are still a barrier in medicine, which neither diligence or talents have been able to surmount. Dissatisfied with the present mode of practice, founded on direct indication, let us examine our knowledge of proximate causes; if it appears that we know very little of these, it will also appear that our indications are often ill founded and nugatory.

The

The theory of medicine, though confiderably improved by a better mode of reafoning adopted by the moderns, is ftill very deficient. If it be deduced from a number of facts accurately obferved, if it confifts of the principles unfolded by experiment, and embodied into a general law, then it will juftly apply to the explanation of phænomena; but it happens too often, that theory is affumed without attention to fact or experiment, and forms the bafis of a fyftem, to which every thing is fitted and cemented, till a flimfy fabric is reared, which the breath of truth blows to the ground.

The theory of the proximate caufe in fevers has varied confiderably in modern times: BOERHAAVE thought it confifted in a ftate of the fluids, which itfelf required proof, and was entirely affumed; HOFFMAN imagined the folids only were concerned; and CULLEN, who copied entirely from him, attributed all the phænomena to fpafm. After all thefe inveftigations, we are yet to learn in what it really confifts. It would be ufelefs at this period to enter on the refutation of thefe doctrines; I believe even CULLEN's fyftem, which was certainly the moft ingenious, has

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now few advocates. It may be remarked, in respect to them all, that effects were seized to explain phænomena, which were in themselves links in the chain of appearances which the remote causes produced. The absurdity of fixing on any intermediate link, to account for all the phænomena, is very evident. We should pay little attention to an artist, who, in explaining the movements of a watch, would pitch on any of the intermediate machinery as the source of the whole. CULLEN's theory had gained considerable credit over Europe, when BROWN's system appeared, which, among other benefits, produced not only a more vigorous spirit of enquiry, but an useful scepticism in system. Before this period, the theory and practice were influenced wholly by the Cullenian school; spasm and its cure were in the mouth of every one, and the pupils of Edinburgh retired from college devoted to this orthodox system.

It is not, however, entirely without use thus to form theories; opinions new and singular awake genius to examine, confirm, or reject them; the faculties of the mind are exercised by research, and its powers increased;

ed; truth may be eſtabliſhed, or falſehood detected. When many minds are employed in one reſearch, there is at leaſt a better chance for diſcovery; the different views in which objects are preſented render inveſtigation more eaſy, and the acceſs to knowledge more ſimple. To be convinced that we are ignorant is a great ſtep towards improvement, and to diſcover the inſufficiency of a theory ſtimulates a farther enquiry. In ſuch a colliſion, a light may at length ſparkle to conduct us through the obſcure receſſes which have hitherto concealed truth; falſe theories, though dangerous as to their influence on practice, have ſometimes been uſeful, by calling into action the talents of eminent men. To the ſyſtem of Dr. CULLEN we owe probably the work of BROWN, and certainly the eſſay of MILLMAN. Let us not entirely baniſh theory. Even when we cannot clear many doubts, we may thus proceed a certain way, and the journey may be happily finiſhed by a more fortunate traveller. Let prejudice be baniſhed from reſearch, let untenable poſts be candidly ſurrendered, nor let us retain ancient doctrines from an improper veneration for antiquity.

Proximate

Proximate causes have been sought with great eagerness in all physical enquiries; but the magic connection which subsists between a preceding and consequent effect, has eluded, and will probably for ever elude, our keenest pursuit. Philosophy marks a chain, or uniform manner, in which effects appear to be connected, and calls by the name of cause, an effect which it cannot trace higher, for which it has no antecedent; and which is followed by a train of other effects, which in their turn become causes, and, perhaps, have no other connection with the highest links than being merely in succession.

When we observe a chain of phænomena uniformly and constantly succeed one another in a certain invariable way, it is customary to place them in the relation of cause and effect, though by this mode of reasoning we lose sight of the highest link we can trace, and attribute all the appearances to an intermediate one, from which we deduce whatever follows. To illustrate my meaning, I shall, for example, take CULLEN'S reasoning on the proximate cause of fever. This celebrated professor laid hold of spasm to account for all the subsequent symptoms. Now spasm

is

is itſelf an individual effect in the train of phænomena which the morbid cauſe produced; for it has been proved very clearly by minute and accurate obſervers, that other evident derangements are preſent at the ſame time with ſpaſm, and are ſometimes known to precede and ſometimes to accompany it. Nauſea, an inexpreſſible anxiety and uneaſy ſenſation about the ſtomach, languor, and debility, are perceptible before any marks of ſpaſm have appeared. Theſe are modes in which the morbid cauſe operates; they are derangements in the uſual functions, and in a great meaſure conſtitute the diſeaſe; but it would be juſt as fair and as good reaſoning to ſay, that languor and debility, or anxiety, was the proximate cauſe, and produced all the other ſymptoms. The truth ſeems to be, that ſpaſm is a ſymptom of fever, in common with many others, but not by any means the proximate cauſe, as Dr. Cullen imagined. Fever exiſts and proceeds when no ſpaſm can be traced, nay, when there is poſitive evidence that it is not preſent; for there are clear teſtimonies that ſpaſm, or contraction of the extreme veſſels, has taken place without producing one ſymptom of fever; and there are caſes of fever, where a moiſture

has

has continued on the ſkin throughout the whole courſe of the diſeaſe, and where it has had that ſoft relaxed feel that indicates a free exit to the perſpirable matter. If the production of ſpaſm was at all times followed by fever, which it ought to be if it is the proximate cauſe, every immerſion in cold water would create a fever; but the ſalutary effects of cold bathing, and the little danger from accidental plunging, are ſtrong arguments againſt this concluſion. I have enumerated theſe objections to ſhew the little uſe and fallacy of ſeizing, for a proximate cauſe, an individual effect of the morbid power, which has no other connection with the ſubſequent phænomena than an accidental precedence.

Let us now examine what we mean by proximate cauſes, and what we really know of them. A proximate cauſe is that condition which exhibits the morbid phænomena, and without which they could not for a moment exiſt; it is the final operation of remote cauſes concentrated ſo as to produce diſeaſe and derangement. No part of medicine is ſo obſcure as this; we are daily baffled in our plans of cure founded on indications, becauſe we reaſon falſely, and proceed to prac-

tice on principles not eſtabliſhed, and altogether unknown. I am not acquainted with one inſtance in which we diſtinctly aſcertain the nature of the proximate cauſe; I allude more eſpecially to fevers; we remark, indeed, its mode of operation, and the phænomena it produces, but the peculiar ſtate neceſſary to give it vigour, and conſtitute its eſſence, is totally unknown to us. When we ſpeak then of proximate cauſes, we ſpeak of unknown powers producing effects which we obſerve, and operating in an unknown manner, without being able to aſcertain the preciſe condition which exhibits them. Theſe cauſes are evidently modified, but we are ignorant of the preciſe and definite modifications. This being the caſe, the practice of preſcribing by definite indication muſt be erroneous or feeble; for if we do not know in what the proximate cauſe itſelf conſiſts, how are we to preſcribe means for its removal? and if it be not removed, we do nothing on this ſcheme of management. An indication is that method which the operation of the proximate cauſe points out for its own removal. Indications of cure are always ſuppoſed to be founded on a knowledge of the proximate cauſe; they are the obviating ſchemes which we

we adopt to fruſtrate the movements of a noxious power; but if our chief attention is directed to a partial effect, the diſeaſe is permitted to exert its full ſtrength, and to gain ſuch vigour as not to be readily overcome, by any means we can afterwards employ.—Whilſt CULLEN's theory, guided practice in fevers, the chief object was to overcome ſpaſm; and medicines were employed for this purpoſe, which had no other effect than gradually to debilitate, and render the courſe of the diſeaſe more inſupportable; by adding nauſea to the catalogue of ſymptoms. It is true, that we are ſometimes ſucceſsful in practiſing by a ſuppoſed indication; when the indication itſelf is at leaſt doubtful, and certainly the manner in which the medicine fulfils it. Thus, when a ſharp inſtrument or rugged thorn, has penetrated the ſofter organs, a locked jaw is ſometimes the conſequence, after the offending body is removed. On the ſuppoſition that this ariſes from extreme irritability, opium is preſcribed, which ſometimes happily removes the danger, though the preciſe manner in which the locked jaw is produced, cannot be aſcertained, nor the operation by which opium removes it. The preciſe ſtate then, which neceſſarily produces

and exhibits the morbid phænomena, being unknown, it is impoſſible to form judicious indications, founded in fact, on a fiction of the phyſician's. Till the laws of animal nature are more minutely unfolded, we muſt ſpeculate; and try to enlarge our views in practice. —We have ſeen that the practice, eſpecially in fevers, though influenced by various theories, has not, for a period of two thouſand years, materially improved. Here then the field is left open to innovation; nor has experience, as Dr. Beddoes happily expreſſes it, any pretenſions to ſet up to overawe ſpeculation. Where, however, an experience is broad, uniform, and extenſive, it may form a guide, which may be followed with little danger; but where experience leads to no uſeful or decided plan, and where indications are only formed to amuſe the practitioner, it is then fair and juſt to take ſome other ground, till a poſition is diſcovered from which we may ſucceſsfully play our artillery on the diſeaſe.

Inſtead then of looking to ſpecial modes, in which the proximate cauſe operates, let us direct our attention to its general effects. If we really knew, in any one inſtance, the direct preciſe circumſtances, which conſtituted the

the proximate cauſe, I am perſuaded the Materia Medica would furniſh us with means to vanquiſh it. It is abſurd to ſay, that we know the proximate cauſe in fevers, whilſt theſe fevers baffle our ſkill; becauſe, in moſt inſtances, where we form opinions approaching truth, on the cauſes of diſeaſe, we inſtantly ſucceed in the cure. The living body, in the ſtate called health, performs its functions with eaſe and harmony; every part of the ſyſtem acts in uniſon, and agreeable to its nature; producing pleaſurable ſenſations, and performing every operation neceſſary to preſerve the whole in perfect order. This harmony of animal action conſtitutes good health; it conſiſts in a peculiar mode of action inherent, or proper, to the ſeveral organs which compoſe the body; but there are powers, or cauſes, which ſeduce theſe organs from their obedience to the proper animal laws, and oblige them to deviate into other modes of action, which create derangements, pain, and uneaſineſs, and which ultimately deſtroy the ſyſtem entirely. Theſe aberrations, from the uſual movements of the animal frame are termed diſeaſes, and the cauſes which produce them are morbid powers. The new manner of acting introduced by the cauſes of diſeaſe

has been termed morbid action.—This term was first used by the late celebrated Mr. JOHN HUNTER, whose original and masculine turn of thinking, introduced many new and useful hints into medical and surgical reasoning.

Morbid action is the derangement in the usual functions, produced by the proximate cause.—As we do not comprehend what constitutes the nature and essence of that power, let us try to modify and change the state of the body; so as to render the operation of the proximate cause less destructive. If we succeed in changing the given state of the body, we assuredly change all the nature of the morbid action, so as perhaps to give rise to a new series of phænomena less dangerous than the former.—It has been remarked, that before morbid powers can produce their effects on the body, there must exist between them what Dr. JACKSON calls an aptitude. This opinion is countenanced, by observing, that though men may be exposed to morbid causes, yet it often requires a long time before disease is produced; that is, before the peculiar aptitude takes place, which disposes the system to yield to morbid influence. In our attempts then, to change the state of the system at once;

it is poſſible the aptitude itſelf may be deſtroyed, and the very principle of the diſeaſe baniſhed. The influence of habit is moſt powerfully felt in all the actions of the living ſyſtem; hence, perhaps, the ſtate of health is ſo long continued, and is more natural to the conſtitution. Whilſt the movements of the body are harmoniouſly performed, and poſſeſs vigour, it will be more difficult to impreſs changes; hence a ſtate of vigour is at all times a kind of protection from contagious diſeaſes; but when the actions of the living ſyſtem are performed with languor and debility, from whatever cauſe, morbid changes are more readily impreſſed and adopted; the feeble rivulet may be diverted into any channel, but the vigorous torrent purſues its courſe, inſenſible to ſmall obſtacles; hence a ſtate of debility renders the ſyſtem more obnoxious to contagion, or the influence of diſeaſe. I am inclined to believe that morbid cauſes fail in producing diſeaſe; not from the want of aptitude, but of vigour in the contagion, or power itſelf. Many men, for inſtance, reſiſt the influence of ardent ſpirits in certain quantities, while others are eaſily intoxicated; but every man can be overpowered by a ſufficient quantity. Thoſe men, commonly called robuſt, are

not always poſſeſſed of the greateſt animal vigour; ſo that this reaſoning is not contradicted by ſeeing what we call ſtout men readily overcome by contagion. If the phyſician ſucceeds in changing the condition of the body, the whole operation of the proximate cauſe will be alſo changed. This, perhaps, may be called a random practice; but it is not more ſo than that founded on indications; and in varying our means, accident may give riſe to diſcoveries, analogies will be ſeized, and experience conſulted, whilſt the views in practice are enlarged. In an Appendix I ſhall endeavour to ſhow, that this doctrine has ſecretly influenced the practice of phyſicians, without being acknowledged, and that, in fact, the cure of ulcers, as pointed out by Mr. JOHN HUNTER, was directly founded on this doctrine, as well as the mode of treating intermittents and other fevers.

SECT. II.

Opinion of the Yellow Fever—It appears to be the common Remittent—It is not the Fever of Philadelphia *or* Boulam—*The Yellow Fever not contagious—Grounds for this Reasoning.*

I SHALL now proceed more immediately to the object of this work, the Fever of St. Domingo.

After all the instances of this Fever which I have witnessed, and all the attention I could pay to it, I am of opinion, that it is the common remittent of that country, rendered formidable, by being applied to the English constitution; that the variety, which appeared in its progress, depended entirely on the variety in the several constitutions which it attacked; and that the yellowness, which gives it a peculiar name, only marks its worst stages, and is rather accidental than peculiarly characteristic.

Dr. Jackson, in his treatiſe, which contains many valuable remarks, has, with uncommon fidelity and accuracy, noted various ſpecies of the Jamaica remittent, which ſeems to me to have been of the ſame kind with what raged at St. Domingo, differing only in violence.

Perhaps the immenſe mortality which has happened in the Weſt Indies within theſe four years, is to be attributed to the greater numbers who have been ſent to that quarter for the purpoſes of war; for, beſides ſailors and ſoldiers, war creates room for a great number of ſpeculators; who follow the army from views of commerce. It muſt be admitted, perhaps, that the climate itſelf has changed, and has been more injurious to the European conſtitution, within this period, than at any former time. What the ſecret cauſes of this change may be, we do not know; but it has been remarked in the Weſt Indies, that during theſe ſeaſons there has prevailed greater heat, and a leſs fall of rain at its proper period; and I have before remarked, that this circumſtance always renders the miaſmata more vigorous and active; beſides, the climate of the moſt healthy regions undergoes frequent

frequent changes, for which we are by no means equal to account; many diseases make their appearance suddenly in such places, without our being able to explain, in any satisfactory manner, the means by which they are produced, and they again retire without any evident change in the climate in which they arose, so minute are the circumstances which influence the origin of diseases.

The fever of Philadelphia, which Dr. RUSH has described with his usual accuracy, certainly never appeared at St. Domingo, during the period of my residence; though there are many similar features in the remittent of St. Domingo, both in the symptoms and treatment. One important and striking difference takes place between them; the fever of Philadelphia was remarkably contagious, whilst that of St. Domingo in no one instance manifested that tendency. It is true, that troops have been disembarked at the Mole, and at other places, with a contagious fever amongst them, which carried off numbers; but its type and symptoms varied considerably from the remittent. This latter fever appeared in many of the transports, who had carried it with them from the encampment formed in Ireland

Ireland previous to their embarkation. From the change and irritability created in all human bodies by the action of heat, the type and form of fevers muſt be changed in warm climates.

There are few caſes of fever, where the pulſe is increaſed, but the hepatic ſyſtem ſuffers ſome degree of repletion, and conſequently its ſecreting powers are increaſed; hence a degree of jaundice is generally complicated with every febrile complaint in the Weſt Indies; but this tranſitory yellowneſs differs very widely, in my opinion, from the inſtantaneous one which takes place in the remittent of St. Domingo. It is true, that numbers ſuffered from a contagion they carried aſhore with them from the tranſports; the 96th regiment were almoſt annihilated by a fever of this deſcription; and other regiments ſuffered alſo from the ſame cauſe; but contagions muſt very ſoon ceaſe and diſappear in a hot climate. The principle of contagion muſt conſiſt in diſtinct elaſtic particles, or be aſſociated with moiſture, or attach itſelf to wood, walls, cloathing, &c. from which the action of heat detaches it ſo as to be applied to the human body in an active

active ſtate; it muſt be evident then, that, *prima facie*, warm climates are unfavourable to the ſpreading of contagions; for the action of heat expands, and rarefies, and volatiliſes all matter capable of evaporation, and by thus blending them with the atmoſphere, either alters their qualities entirely or renders them leſs noxious. Perſons, to receive infection, muſt in general be very near the ſource of it, ſo as to be impreſſed whilſt it poſſeſſes vigour, otherwiſe it fails of effect. We remark further, that all the means we employ to purify chambers, hoſpitals, or ſhips, and baniſh infection, are nothing more than creating an artificial warm climate to rarefy the atmoſphere. From this ariſes the benefit of fumigations, which, perhaps, are only uſeful in proportion to the volume of ſmoke which iſſues from them. No one, I preſume, will pretend to point out any new combinations, by which the principle of contagion is neutralized or rendered inert. Of other means of preventing infection I ſhall ſpeak more fully afterwards.

The Remittent of St. Domingo bears no analogy to the fever deſcribed by Dr. Chisholme, and which he ſuppoſes was carried from

from Boulam, in Africa, by a Guinea ſhip. Dr. Rush very clearly proves, in his own perſon, that the Philadelphia fever was remarkably contagious, and he merits the higheſt praiſe for his fearleſs induſtry amidſt ſo many dangers. Contagious diſeaſes are marked by a ſtriking and rapid progreſs, from a certain point, in which they have commenced, and from which they extend, without any diſtinction, to all around them; when they have found admiſſion into a particular diſtrict, or family, they lay them waſte; and thoſe who are moſt forward to perform the offices of humanity are unhappily the firſt to ſuffer. The friends and attendants of the ſick become infected, and periſh; the phyſician himſelf, more dauntleſs from habit, is at length ſcared from his office, and flies the dreadful ſcene. This miſery Philadelphia, in common with Aleppo, has experienced; but no circumſtance attending an infectious fever occurred in the remittent of St. Domingo. When a ſoldier was ſeized in the barracks, it was not obſerved to ſpread in that particular quarter, and ſometimes only one was attacked; nor could we remark, when they came into the hoſpitals, that in one caſe whatever the contagion was evident. The medical gentlemen could not have

have poſſibly eſcaped if there had been any infection; for though they might for ſome time reſiſt its influence, it is not probable that they would always eſcape, expoſed to the ſtreams of contagion which muſt have iſſued from ſuch a number of bodies in its moſt vigorous ſtate of action; but the gentlemen moſt expoſed to this danger never ſuffered, ſo as to ſuſpect that their diſeaſe aroſe from infection. Dr. SCOT, Mr. WARREN, Mr. BUCKLE, and many other gentlemen, who gave the ſick the moſt aſſiduous attention, eſcaped this fever, although each of them ſeldom viſited leſs than ſeventy or eighty patients three times a day. It is true, Dr. ST. CLAIR and Mr. POWRIE died; but they had been for a long time expoſed to the cauſes of the remittent before they were attacked. Dr. ST. CLAIR was full and plethoric, and by no means a good ſubject for any febrile diſorder; and Mr. POWRIE had been expoſed to conſiderable fatigue. Nor could we remark, in any inſtance, that the immediate attendants of the ſick ſuffered more than others. The ſoldiers, who performed the office of nurſes, were in general very healthy, and without any fear of contagion. At firſt, in the ward conſigned to my care, I ſeparated the feveriſh from the others,

others, as much as my limits permitted; but on other occaſions I was obliged to blend them with the convaleſcent; but I never obſerved, that in this ſituation any of their immediate neighbours ſuffered, or that the fever ſpread. I was led to conſider the diſeaſe contagious, by reading the publication of Dr. RUSH; whoſe authority muſt have great weight in all medical opinions; but the fever he ſo ably deſcribes, differs greatly from that of St. Domingo. This difference may ariſe from the climate of Philadelphia, and the variety produced in the conſtitution; but our knowledge is too limited to explain preciſely the operation of theſe cauſes.

There is no point on which I am more decided, than the abſence of contagion in the remittent of St. Domingo. The uncertainty of medical reaſoning, and the looſe principles on which it is founded, has given riſe to a variety of medical opinions on almoſt every ſubject; but on this queſtion we were all agreed; no difference of ſentiment, no variety of opinion appeared amongſt us. Dr. WRIGHT, who was my colleague, and whoſe accuracy of obſervation and ſtrength of judgment entitle him to attention, was of the ſame

way of thinking; he had made his concluſions at Cape Nicholas Mole, before I had the ſatiſfaction of meeting him; ſo that we could not have biaſſed each other. Dr. GORDON likewiſe, who had extenſive opportunities of obſervation, and was anxious to aſcertain this queſtion, entirely coincided in the ſame opinion; and if I recollect, it was alſo the deciſive opinion of Dr. SCOT; in ſhort, I never converſed with any medical gentleman at St. Domingo, who did not form the ſame judgment. I had not an opportunity of converſing with the Jamaica practitioners on this ſubject; but I have been informed, that on ſeveral occaſions fevers brought there in ſhips ſpread for a little time with great ſeverity. This one feature then greatly diſtinguiſhes this fever from that which raged at Philadelphia, or the diſeaſe deſcribed by Dr. CHISHOLME.

This is a queſtion of the utmoſt importance to aſcertain. If it really was proved, and the proof could not be difficult, that there exiſted a contagion, our practice and precautions muſt be different. If there is an infection, it would be uſeleſs and inhuman ever to ſend any European to that climate. Already have groundleſs fears, terrified and ſubdued our countrymen;

countrymen; and rendered them more liable to fever, and more eafily conquered. The name of St. Domingo is execrated, and dreaded by all defcriptions. The officer and foldier bound for this fervice look upon themfelves as doomed to certain deftruction. The foldiers lofe the benefit of their comrades attention; the officer is approached with fear by his friends or fervants; all the foothing attentions, fo pleafing in the fick bed, are banifhed by terror. The fervice fuffers by thefe falfe alarms, which are exaggerated in every narrative; and conveyed in the language fear always fupplies. The climate is, no doubt, fufficiently terrible to the young and vigorous; many have perifhed, and will always perifh, at that period of life. If the plan, however, of fending men from the age of forty-five, to fifty years, is ever adopted by government; this mortality from climate will in a great meafure ceafe, and the fervice will be carried on with more vigour and fuccefs; at any rate it will be pleafing to know, from the united teftimony of all the phyficians and furgeons who ferved at St. Domingo; that the Remittent of that ifland, called *the Yellow Fever*, IS NOT INFECTIOUS.

SECT. III.

Causes of the Frequency of the Remittent—Similar Causes produce Remittents and Intermittents—State of the Organs in the Remittent—Phænomena in the Remittent—Critical Days—Causes which excite the Fever—Diagnostic difficult—Prognostic.

IT will now be asked, how came this fever to be so frequent, and destructive; if it is not contagious, and what description of fever it really is?

It became destructive, by having a number of strangers presented to its poison; in a condition, unfavourable to their safety. This condition has been already explained, in a former part of this work. The cause which remotely produces this fever is floating in the atmosphere, and breathed by every one alike, or otherwise applied to their bodies. Hence great numbers are seized at the same time, because great numbers are exposed, to the perpetual action of a very powerful agent. This gives the fever an appearance of infection, when it is only the operation of a cause gene-

rally acting. Every man is expoſed, and probably charged with the miaſmata, 'though we do not know fully the circumſtances abſolutely required to make them active. Many ingenious, and uſeful remarks are made by Dr. RUSH on this important ſubject. I agree entirely with him, that the cauſe of fever may lurk for a long time inoffenſive, till the abſtraction of ſtimuli, or the addition of them, or accumulated excitability, give them an energy and action. As great numbers are expoſed then, many muſt be ſo impregnated, as really to become feveriſh; and as the condition in which they are attacked is unfavourable, the iſſue is frequently fatal.

I have already ſaid, that I think the St. Domingo fever, commonly called *the Yellow Fever*, merely the remittent endemic of the iſland, applied to the Engliſh conſtitution in a certain condition; and further, that the yellowneſs, for reaſons already alledged, is not always bilious, but an accidental variety, marking only its worſt ſtage, and depending on a change in the ſerum.—I ſhall now more fully give my reaſons for this opinion; if they are groundleſs, I ſhall think myſelf happy in an opportunity of changing them, for the

more enlarged and correct views of others, who may be more fortunate in their investigations.

I have obſerved this Fever, with all the attention in my power; and I have ſeen it proceed to its fatal termination, in numerous inſtances, without the leaſt yellowneſs whatever. Whilſt, on other occaſions, it made an early appearance, and excited juſt alarms for the patient; but when it went on without the yellowneſs, the ſame ſymptoms and movements took place, as when the yellowneſs was preſent, except the abſence of that formidable ſymptom. The yellowneſs, if it really marked a peculiar diſeaſe, would have along with it peculiar ſymptoms, which would give character to it, and regularly attend its progreſs; but no ſuch ſymptoms ever appear. The inceſſant vomiting is a ſymptom common to the remittent in both ſtages, with, and without yellowneſs. The mode of attack is preciſely the ſame in both forms, and when we ſucceed in either, the form of practice is the ſame. There is no ſeparate and diſtinct type to characteriſe a new fever, different from the prevailing endemic. The yellowneſs, appears to me, to mark only an

aggravated caſe of the Remittent; to be merely a ſtage of it more replete with danger. The power of the cauſes produces more manifeſt changes or derangements; and in whatever manner they are effected, they cannot exiſt without the greateſt danger to the ſyſtem. There does not exiſt then a peculiar fever, meriting the name of Yellow Fever, in St. Domingo; it is only a variety, marking great danger, and, in fact, nothing more than the common Remittent.

The fever of St. Domingo I have termed a Remittent, becauſe its type reſembles that form more than any other. The remiſſions, in moſt inſtances, are very obſcure, and in many not altogether diſcernible; I have, however, marked them very diſtinctly in a few caſes. They occur, in general, towards noon, and are of more or leſs duration, according to the ſeverity of the attack; ſometimes, however, they are protracted, and happen in the afternoon; but in general ſome ſlight alleviation of the ſymptoms, ſome relief to the oppreſſion, ſome diminution in the heat, or in the violence of reaction, are perceptible in the forenoon, and therefore the fever may be called remittent.

I have for a long time thought, that Intermittents and Remittents arose precisely from the same causes, and only differed in form, as the causes were applied to different constitutions, or as different degrees of the same disease. There is hardly a country in which Intermittents prevail, but where also the Remittent makes its appearance. The mild and confluent small-pox every body allows to arise from the same source; yet the appearances are so different in different constitutions, that they would almost seem different diseases. The Intermittent appears to me only the milder form of Remittent, which in itself is the aggravated stage, as the confluent is, of the mild small-pox. When the cause is not very powerful, or applied to a constitution not disposed to adopt morbid movements of any duration, an Intermittent is produced; but when it possesses energy and strength, or is applied to a constitution ready to revolt from the laws of health, and adopt new movements, then the remittent type is completed. In the milder shape of the Remittent, the same remedies effect a cure; and the more the Intermittent approaches, by having no distinct intervals, to the Remittent, the more difficult and dangerous the case becomes.

The Intermittents and Remittents are generally inhabitants of the ſame country, and either prevail at the ſame time, as forms of one diſeaſe, or appear to ſucceed one another, from minute changes in the climate or conſtitution. I have frequently ſeen the Intermittent commence the attack, and repeat its form for one or more paroxyſms, and afterwards, as the cauſe gained ſtrength, aſſume the remittent ſhape, and prove fatal. On other occaſions I have obſerved the Remitting type at once begin the diſeaſe, but mitigating in its progreſs, either from ſome change in the atmoſphere or conſtitution, aſſume the Intermitting ſhape, and the patient has eſcaped. They have thus appeared in the ſame places, and have aſſumed their reſpective forms, as varieties of one diſeaſe, ſo as to induce me to conſider them as only forms of one fever.

The Remittent of Saint Domingo, attacks at all ſeaſons; but with more violence and deſtruction, during the months in which a vigorous exhalation is going forward; and when the falls of rain are leſs frequent. From the beginning of May, till the middle of November, the Remittent continues its ravages with unceaſing violence; but when the rains fall plentifully,

plentifully, and the heat is ſomewhat diminiſhed, the Intermittent form begins its reign. They generally commence their attack, either in a ſtate of indirect debility, or where there is conſiderable excitement. The Remittent uſually attacks by laſſitude, and wearineſs, or by chilly fits, and ſlight pains in the bones, with great inclination to ſleep, and an unaccountable liſtleſſneſs to every thing around. At other times it is uſhered in by a regular paroxyſm of ague, which, going through its common courſe, leaves the patient languid and weak; in this ſtate the Remittent aſſumes its proper form. The pulſe, at times, is little altered, and no great change in the heat of the body; but the eye has an expreſſion of anguiſh, ſometimes of ferocity, and a certain grimneſs takes place in the countenance, as Dr. Jackson has remarked in the fever of Jamaica. In ſome inſtances, the pulſe is oppreſſed and contracted, and the patient is under the influence of very low ſpirits, and inclined to ſigh; in others, the pulſe at once is hard and full; the face fluſhed, and the patient complains of intenſe head-ach. Theſe ſeveral modes of attack are not uncommon. The patient continues in this ſtate during the night, and at times enjoys a calm ſleep,

at times ſuddenly ſtarts; and forgetting where he is, ſees himſelf aſſailed by dreadful phantoms, and wiſhes to ruſh into the ſtreet, or jump through his windows. When recollection returns, he uſually falls liſtleſs, or ſullen on his bed; and, ſighing, ſleeps again. During this time all the ſecretions are conſiderably diſturbed; the urine is in ſmall quantities, high coloured, and turbid; perſpiration is irregular, interrupted, and in ſmall proportion; the ſaliva becomes viſcid, and the tongue is covered over with a cruſt of various colours; the bile is ſecreted in unuſual quantities, and thrown into the ſtomach, from which it is again ſpeedily ejected; the ſkin becomes abſolutely impervious, and feels like a board; no impreſſion can be made on it by any plan of relaxation, or by any ſtimulants we yet know. On the ſecond, often on the third day, the dangerous determinations to the vital organs begin; the ſtomach is aſſailed, and its coats affected with inflammation; the veſſels of them become diſtended with an unuſual quantity of blood, which throws them into an inordinate action, and gives them all the irritability of inflammation; the whole inner ſurface of the ſtomach may in this ſtate be conſidered as one inflamed

inflamed ſurface, to which nothing is applied with impunity; the veſſels, thus diſtended and active, ſecrete more copiouſly, and their ſecretion is poured into the ſtomach, which acts with violence to return it; and thus ſupports a conſtant determination to itſelf. At length the veſſels, overcome by perpetual action, loſe their tone, and pour out portions of blood, which, mixing in the ſtomach with the former ſecretion, and an addition of bile, create what is termed the black vomiting, a moſt dangerous ſymptom; becauſe the ſtate neceſſary to produce it, is a ſtate of the greateſt derangement. There are proofs of this progreſs; the pain and irritability of the ſtomach, and the great ſecretions in its cavity, argue, in the moſt decided manner, that the blood veſſels are ſurcharged, and in a ſtate reſembling inflammation: that this is really the caſe, appears from diſſections, which ſhow the inner coats of the ſtomach peeled off, and ſeparated. This could not happen without organic læſion; and ſuch læſions are commonly the reſult of previous inflammation, and increaſed action. In this manner is the inceſſant vomiting accounted for, on pretty certain principles. That this is really the caſe, may be further argued from

the ſtate of the ſkin, it being found completely locked, and ſhut up, refuſing a paſſage to its moſt eſſential and cuſtomary diſcharge. The urine, in common caſes of diſeaſe, is increaſed when the perſpiration is diminiſhed, and a balance is ſupported between them; but this does not happen in the Remittent; for though the perſpiration is almoſt entirely ſuppreſſed, the urine ſeldom ſuffers an increaſe. The maſs of blood, in theſe circumſtances, muſt be augmented by the retention of different ſecretions; the conſequence muſt be, that the weaker or more lax veſſels will be ſurcharged, and ſuffer all the conſequences of inflammation. The liver, the ſtomach, and the brain, poſſeſſing a large ſyſtem of veſſels, in a ſoft medium, become particularly liable to theſe determinations; and accordingly we find, that in theſe organs they really take place. In ſome inſtances the patient, from the very firſt moment, feels only a kind of inſenſibility; and languiſhes away his life without any pain. The powers of life, attacked in their very principle, yield gradually to the irreſiſtible oppreſſion, of the morbid cauſe; whilſt the ſyſtem, unable from the beginning to make any proportionate reſiſtance, ſurrenders itſelf to diſſolution without a ſtruggle.

During

During this progreſs, changes ſeem produced in the great maſs of the blood itſelf: what oozes from the gums exhales the moſt fœtid odour, and the many ſpots, which, under the title of vibices, or maculæ, are diſperſed over the body; argue ſome conſiderable change in the ſolids and fluids. From the fætor of the breath, and the horrid ſmell of every matter iſſuing from the ſick, I think it will be difficult to queſtion the exiſtence of a putrid ſtate. We ſee that in the ſmall-pox, a matter often deſtructive to life is introduced with impunity in numerous inſtances; and I can ſee no reaſon why the putrefactive ſtate may not exiſt, in a certain degree, whilſt the living phænomena are going forward. If it be not, a putrefaction in the fluids; we are yet to learn, what it is that produces that fœtid ſmell; whilſt the blood, by iſſuing from the gums, noſe, and anus, ſeems really in a more fluid ſtate. A laxity of the ſolids alone will not explain the hæmorrhage, without a change in the blood itſelf; and ſhould we admit, that laxity ſometimes accounts for the flow of blood, we ſhall be ſtill in the dark as to the fœtor. It may be proper to remark, that I have frequently ſeen the dying in a ſituation

ſituation I could not approach them, from the very putrid ſmell of their bodies; and that, immediately on their death, they were inſufferable, and tainted the air to a conſiderable diſtance. The appetite is entirely gone, but when in any degree preſent, becomes extremely whimſical and capricious. The deſire for drink is often remarkable; but ſmall portions only can be ſwallowed at a time; and theſe, unfortunately, are again thrown up with violent exertion. The Remittent is at times uſhered in with convulſions, which I have ſeen repeated at the periods of exacerbation. About the third day, ſometimes on the evening of the ſecond, or perhaps as late as the fifth, the yellowneſs begins to make its fatal appearance in ſtreaks along the cheek, forming angles with the alæ of the noſtrils; they purſue the courſe of the jugulars; the back is alſo tinged in the ſame irregular manner; the firſt ſtreaks extend, and become more apparent; the veſſels of the eye are evidently affected, and in a few hours the whole body aſſumes a golden hue; the black vomiting increaſes, and becomes darker; the patient feels at once relieved, from the pain in his ſtomach; talks of his happy ſenſations, which, alas! are only

delusive preludes of his death. The pulse flutters, and becomes feeble; cold sweats break out on the face; the extremities become cold; the eye, inexpressive, and half closed, sinks in the socket; the pulse entirely ceases, breathing becomes laborious, and the rattle in the throat, announces the near approach of dissolution, which a convulsion generally closes.

I have seen cases where a total insensibility has continued for several days, whilst the pulse supported considerable strength, attended with active hæmorrhage from the nostrils, without affording relief; and yet the patient has recovered. One case of this kind I attended with my friend, Dr. Wright, where these symptoms proceeded for several days in the manner above described; but our patient happily escaped.

It was impossible at times to mark any particular critical days, as deaths and recoveries happened irregularly, without any evident election for particular periods. The fifth day, however, the seventh, and the eleventh, appeared in some degree critical, though not by any means in a certain invariable order. I have

have ſeen the fever proceed, without any great violence, to the twentieth day, and yet, after all, prove fatal at a time when hopes were entertained of a full recovery. In ſuch inſtances, either the patient was cut off by the gradual and ſlow diminution of animal powers, or a ſudden exacerbation has at once extinguiſhed life. In ſlow caſes, the powers of the human ſyſtem are inſenſibly waſted, and when any exciting cauſe is applied, there is no vigour left to combat the diſeaſe. In a ſtate of debility in warm climates, there is nothing left to renovate the diſſipated ſtrength: the cauſes of relaxation are continually applied, whilſt the body is weakened in all its functions; hence very few complete recoveries, from a ſtate of great debility, ever occur, in the Weſt Indies; but in moſt caſes, where recoveries have happened, obſtructions are formed in many important organs of the human body; the liver, the meſenteric glands, and the veſſels of the ſkin, are ſo obſtructed, that their uſual functions are conſiderably interrupted; nor are they reſtored to their common offices, before a colder climate has imparted general vigour to the conſtitution. Thus, the Remittent of St. Domingo is not only formidable in itſelf, but alſo lays the foundation of many

many other diseases, in the end equally fatal. It may be worthy of remark, that before the Remittent assumed the Intermittent type, a dysentery sometimes intervened, but the Intermittent form generally returned, and after going through some paroxysms, ended in obstinate dysenteries.

With respect to crisis, in this fever, it was seldom very evident; sometimes a profuse perspiration, sometimes the return of sleep, an hæmorrhage at the nose, or sudden diarrhœa, put an end to the disease; on other occasions, it terminated in jaundice, which came on by slow degrees, and seemed to remove all the febrile symptoms. I remarked before, that in some instances the patient was relieved at once, by the appearance of an inflammatory spot on a particular finger or toe, as if the cause of fever had escaped by an explosion. This remark was first made by Dr. Jackson, and I have seen several instances to confirm it. I could never observe any remarkable lunar influence over the periods of accession.

With respect to Prognosis, it forms, perhaps, the most difficult part of our discussion. The eye, the most interesting organ on these occasions, which seems as it were to predict every

event,

event, is a difficult ſtudy; the minute changes and variations which it undergoes; which impreſs the phyſician, though he cannot deſcribe them, are great difficulties in prognoſtic; language has not words to deſcribe theſe minute ſhades; they can only be felt by the beholder. Theſe difficulties will be readily acknowledged, by thoſe who underſtand the language of the paſſions, ſo eaſily underſtood, but ſo difficult to convey in words. From the eye, conjoined with ſome other circumſtances, I generally drew my prognoſtic, and I was, unfortunately, ſeldom deceived in my opinions of danger. It muſt be acknowledged, that I have met with a few caſes, of which I had formed a favourable idea, which afterwards proved fatal; but they were few in number, and occurred in my firſt acquaintance with the diſeaſe.

But the Diagnoſtic of the Remittent is equally difficult; nor do I now know decidedly any clear and preciſe mark or ſymptom by which its commencement could be invariably aſcertained. The anxiety of friends, and the deciſive ſteps a phyſician would take to oppoſe danger, render the ſcience of prognoſtic of conſiderable importance; I ſhall briefly

briefly ſtate the circumſtances on which I uſually formed my judgment, as to the iſſue of a caſe.

The youth of the patient, and a plethoric ſtate, were invariably circumſtances of danger. The ſtate of body, in which the patient was at the moment the diſeaſe invaded him, influenced my opinion of his ſafety. If it came on, after the indirect debility of a debauch in wine, and ſitting up late, there was always very conſiderable danger; nor do I recollect almoſt an inſtance of a favourable termination, where the fever thus commenced. I remember being once preſent at the flank meſs, on the Hill, at Port-au-Prince, when conſiderable quantities of wine were drank, and the party ſat up very late; my duty required me to leave them at a ſeaſonable hour; but three of the party, were next morning ſeized with fever, and two of them periſhed on the fourth day. I think it neceſſary to be thus explicit on a ſubject that ſo nearly intereſts us all.

When the fever made its attack, after being expoſed to great fatigue, and the action of the ſun, it was always attended with danger. If the perſon attacked was habitually ſubject to

apprehenſions of danger, and low ſpirits, the iſſue of the caſe was rendered very doubtful. If it made its appearance in habits not circumſtanced as I have deſcribed, the danger, *cæteris paribus*, was conſiderably diminiſhed. Combining then theſe conſiderations with the actual morbid phænomena in the individual, I formed my opinion, which, in moſt inſtances was correct.

The morbid phænomena, which indicated great danger, were the following: ſuch an oppreſſion of all the functions at once, as greatly impeded their action; the pulſe being enfeebled, and the ſtrength at once remarkably diminiſhed. Suppreſſed animal movements, and a general careleſſneſs as to the event, indicated no favourable iſſue; in fact, where the conſtitution made no reſiſtance, and ſeemed at once, as it were, vanquiſhed and ſubdued, there was more danger than even in a violent re-action. Becauſe it argued the complete energy and vigour of the morbid cauſe. When the patient changed his natural manner of lying in bed, and aſſumed any whimſical or unuſual poſition, it was no favourable ſymptom. Sighing indicated danger; it did not ſeem to ariſe from meditation on the diſeaſe, but involuntarily, from

from congeſtion about the veſſels of the heart and lungs. The fæces and breath being remarkably fœtid was a fatal ſymptom frequently; nor were hæmorrhages from the noſe, if they were repeated, ſigns of ſafety. The tongue afforded alſo ſome ſigns to aſſiſt the judgment: if it trembled remarkably on being thruſt out, it was unfavourable, or if it was covered over with a leaden coloured cruſt, whilſt the edges wore a brilliant red appearance; a brown or bilious cruſt is not ſo formidable, eſpecially if it appears looſe, and eaſily ſeparates when touched. The violence of the general ſymptoms is commonly attended with danger: vomiting, head-ach, great proſtration of ſtrength, when long continued, are ſymptoms of great derangement, and argue an intenſe diſeaſe. The nervous ſymptom affords many alarming ſigns of danger. Tremor of the body when moved, with a tendency to faint on ſlight exertion, juſtly alarm the obſerver; the fierce delirium, which propoſes heroic action, and raves of battle, is leſs to be dreaded than the low, muttering, grim, melancholy, which is loſt in meditating wrath, without an attempt to move. But above all, the eye affords the beſt means of judging, in conjunction with the ſeveral ſymptoms already mentioned: a

certain penſive ſadneſs in its glances, an expreſſion of anguiſh unſpeakable, a languor in its movement, an inclination to ſhut out all objects, are ſigns of the greateſt danger, eſpecially when combined with many of the circumſtances above ſtated. But no deſcription will make the phyſician fully comprehend what has been ſaid of the eye, unleſs he has watched it at the patient's bed-ſide. I have ſeen a phyſician ſo inattentive to the circumſtances of prognoſtic, that he has given out, that a gentleman was recovering, and much better, who was expiring as he was relating the ſtory. This is attended with bad conſequences, and brings ridicule and want of confidence on the profeſſion. The moſt attentive obſerver will ſpeak with diffidence, but he will often approach truth, and be fortunate in his concluſions. Succeſsful prognoſtic begets confidence in the opinion and ſkill of the phyſician, and proves to the world that he is not inattentive to the phænomena before him. I have omitted to mention, that the features in general, conſtituting with the eyes what is termed the expreſſion of the countenance, are of the greateſt ſervice in prognoſis. A countenance little altered in the general expreſſion does not indicate danger, but where the fea-

tures loſe their peculiar caſt and character, and have no expreſſion at all, or appear vacant, conſiderable apprehenſions are to be entertained. When the features expreſs anguiſh, grimneſs, or diſtreſs, of which the patient himſelf does not openly complain, though they ſeem printed on his face, there is conſiderable danger, eſpecially if ſighing is added to the catalogue. There is little to be learned from the pulſe; I have ſeen an intermitting one precede a happy criſis; in general, it is more favourable when ſtrong, than even when full, ſlow, or equable: when the pulſe is not much changed, and when that change is to feebleneſs, the heart is ſubdued, and its powers and action diminiſhed.

I have now given the circumſtances from which, in general, unfavourable opinions may be formed, though they are not in every caſe poſitive or deciſive; yet from the combination or preſence of a great number of them, a very probable judgment may be given.

Having ſpoken of the ſymptoms and appearances, on which unfavourable opinions of the patient's fate are grounded, it will be proper to ſtate the circumſtances which afford

ſome hope of recovery. The abſence of the ſymptoms already detailed, affords ſome proſpect of a favourable iſſue. When the diſeaſe attacks a perſon, not particularly plethoric, or weakened by fatigue, or enervated by debauchery, and where there is a moderate action, and the ſenſes entire, he is in a condition to make a ſucceſsful reſiſtance. If the remiſſions are diſtinct, and the ſecretions not remarkably changed or impeded; if the fever appears inclined to the Intermiting form; if ſleep refreſhes; if the mind ſupports its vigour, whilſt there is a ſenſibility to danger, the circumſtances are ſtill more favourable. A deafneſs occurring in the progreſs of the diſeaſe is not an unfavourable ſymptom. The gradual return of perſpiration over the body, eſpecially towards morning, is alſo favourable. Eruptions about the mouth and face, with conſiderable pain and inflammation; a browniſh thick cruſt on the tongue, diſappearing from the edges, but leaving them of their natural colour, are no unpromiſing appearances. Moderate thirſt, and moderate heat, without that intenſe, burning feel, many patients complain of, are promiſing ſymptoms.

The natural diſcharge of the fæces and urine, without extreme offenſive ſmell, and of a natural

tural confiftence and colour, leads to a favourable prognoftic. The coming on of jaundice, towards the clofe of the fever, in a gradual manner, is by no means an unpromifing fymptom. The return of moderate appetite, and a defire for acids, in the courfe of the difeafe, I have often found very pleafing prefages of recovery. The eye, and the countenance, preferving a fteady unclouded afpect, animated by hope, and undepreffed by terror or apprehended danger, afford the moft certain affurance of a happy termination.

I am aware, that all I have ftated forms a very imperfect hiftory of the favourable and unfavourable circumftances, which may influence the judgment of phyficians. Obfervations, and an opportunity of recording them, and multiplying them, can alone increafe our ftock of knowledge in this moft ufeful branch of medicine. It certainly admits of great improvement, and forms, perhaps, the moft ufeful and interefting part of phyfiognomy. By this improvement, we might hope to forefee, at an early period, the force of the difeafe, and be enabled to apply fuitable means, before it attained that ftrength, which we could foretell in its infancy. This certainly would be a

great advantage; though, I fear, we ſhall never attain that perfection in it, which LAVATER fondly thinks attainable. We ſhould indeed be perfect, if we could trace in the features, the ſmall-pox lurking in the habit; or the Remittent, before it produced its peculiar ſymptoms; but a knowledge of prognoſtic, far more limited, will be very uſeful to the phyſician.

SECT. IV.

Two Caſes of the Remittent—French Treatment of them—Diſpute in Jamaica *on the Nature of the Fever—Practice of the Gentlemen at* St. Domingo—*Various Remedies examined—Calomel; Blood letting; &c.—Caſes detailed ——The Practice purſued by the Author after long Experience—Comparative Succeſs of this Method—Practical Remarks.*

IT is now time to come to the treatment of this fatal diſeaſe, which made ſo many cruel ravages among our troops, and carried on a deſtruction almoſt equal to the plagues of Aleppo.

On

On my firſt arrival at Port-au-Prince, I had few opportunities of ſeeing the fever; but very ſoon, a young gentleman, in whom I was extremely intereſted, had a ſerious attack; he complained of a pain in his bones, and a very ſevere head-ach, with an inclination to vomit; and before I had ſeen him, though I might probably have recommended it at that period, he had taken an emetic, which operated well, but unfortunately excited an irritability in the ſtomach, which I could never afterwards ſubdue. As theſe ſymptoms continued on the third day, with a full, hard pulſe, and he had juſt landed from Europe, I directed him to be bled, and accordingly he loſt twelve ounces, which afforded him ſenſible relief. He was about twenty-one years of age, rather plethoric, and ſomewhat timid, from the hiſtories he had previouſly heard. Anxious to do every thing in my power for this amiable young man, and not chooſing to truſt myſelf in the treatment of a new diſeaſe, I begged Monſieur PERE, formerly king's phyſician under the French government in that iſland, to pay him a viſit; he accordingly came, and ordered him large quantities of lemonade, three injections in the courſe of the day, a warm bath,

bath, and another blood-letting in the foot, in which he placed confiderable faith in making a revulfion from the head. As I trufted to the long experience of Monfieur PERE, in this difeafe, I did not interrupt any part of his treatment. On the night of the fourth, he ordered him a bolus of camphor with a fmall addition of opium. On the fifth he was vifited again, when I found a confiderable degree of coma prefent, and a low, rapid, muttering voice. The circulation was diminifhing, and vibices made their appearance on the neck and back, intermixed with fpots perfectly black. In this fituation, after the tepid bath, I directed four blifters to be applied to his ancles, and the infide of the thigh, and finapifms to the feet, whilft he fwallowed occafionally a little æther and cinnamon water; but all was in vain, for the cafe terminated fatally on the fame evening. In this cafe there was no yellownefs during the whole courfe of the difeafe, nor any diftinct remiffion, except the abatement which followed the blood-letting.

Another young man was taken flightly ill, on board fhip, a few days before, but did not judge it of any confequence, attributing

his head-ach and laſſitude to a long walk he had taken, expoſed to the ſun. He was about twenty-one years of age, very robuſt, vigorous, and plethoric. He had been three days complaining, when I ſaw him. I ordered him on ſhore; he ſeemed better for the agitation of the carriage in bringing him to a lodging. He was bathed in the evening, and I ordered him twenty grains of James's powder, and eight of calomel. This medicine operated well, producing a perſpiration and ſeveral looſe fœtid ſtools. During the 4th, he was tolerably eaſy, and drank very freely of lemonade. On the 5th, there was a tendency to coma; and the vomiting became at the ſame time very diſtreſſing and inceſſant. In this ſituation, though I had formed no plan of general treatment, I applied a large bliſter over the region of the ſtomach, ordered him at the ſame time an injection, and took eight ounces of blood from his arm. The irritation ſtill continued in the ſtomach; but as the bliſter produced its effect, the vomiting gradually abated, and at length entirely ceaſed; the coma was diminiſhed, and the pulſe acquired more vigour and regularity. During this proceſs, there was no remarkable heat, and the ſkin had not that locked feel, ſo evident

in

in many cafes of this difeafe. He paffed the night of the 5th with more comfort than any previous night fince he had the attack. On the morning of the fixth, the vomiting again made a flight appearance, and he complained, that whenever thirft obliged him to drink, it gave him great pain, as he felt his ftomach beginning to contract, how foon the liquid touched it. This day I prefcribed him fmall draughts of cinnamon water, extremely weakened by dilution; to which were added a few drops of laudanum. Thefe remained on his ftomach, and gave him fome relief. I begged of him to avoid motion, and to drink as little as he could, for fear of bringing on again the irritability of the ftomach. The tepid bath was repeated; but now the fkin became impervious, and felt dry and hufky; I remarked too, the veffels of the eye becoming tinged with yellow. On the morning of the feventh, the yellownefs had become more evident, and had tinged the fkin and nails. He felt very much relieved from pain, his recollection was clear and unclouded, and his mind had all its wonted energy; but his pulfe was low, fluttering, and quick; he complained of fharp pains in his bowels, and fome difficulty in making water. I ordered his belly to be well fomented,

fomented, and directed him to get an injection with fifty drops ſtrong infuſion of opium. Throughout the day, he was very much relieved, but, towards evening, a violent purging came on, the fury of which nothing could reſtrain; he was every moment up, diſcharging ſmall, fœtid, liquid ſtools; whenever he taſted any thing, it ſeemed to paſs through the inteſtines with inconceivable rapidity. I tried every means I could poſſibly deviſe to ſtop this purging, by directing the circulation to the ſurface, by diminiſhing the irritable ſtate of the inteſtinal fibre, and by aſtringents, after the manner of Dr. MOSELY. I could not unlock the ſkin, which reſiſted the warm bath, and the action of internal diaphoretics; I could not diminiſh the irritability of the inteſtines; nor did aſtringents prove of the leaſt utility. Whilſt the diſeaſe was thus holding its victorious career, he became, in a remarkable degree, attached to wine, and intreated me, in a manner too earneſt to be refuſed, to let him have ſome. I had heard of cures performed ſometimes from this deluſive call, as if it were the voice of nature, preſcribing to herſelf; and I accordingly indulged him with ſuch portions, as I conceived he might bear without exhauſting

hauſting him; he ſeized the wine with avidity, pouring on me many benedictions for what he termed the only gratification he could enjoy. The diſeaſe, however, continued to increaſe, his ſenſes gradually decayed, he paſſed his fæces in bed without any ſenſibility, and, altogether, became the moſt diſtreſſing ſpectacle I had ever witneſſed. On the twenty-firſt day from the commencement of the diſeaſe he expired, whilſt, in a fit of delirium, he was attempting to get out at the window.

Thus periſhed two young men of great promiſe; they were the firſt I ever attended in the Remittent of St. Domingo.

The yellowneſs in this inſtance continued to the laſt. What ſurpriſed me moſt was, the obſtinacy of the diarrhœa, which, in violence, exceeded any thing I had ever witneſſed. Since that period I have ſeen many caſes of the ſame kind, which lingered on to a much longer period, but generally proved fatal. In the houſe of Mr. DALTON, a reſpectable Engliſh merchant at Port-au-Prince, many of his clerks and aſſiſtants periſhed very ſoon after they landed; indeed, as he aſſured me,

me, hardly any escaped, who were attacked. These gentlemen had all been attended by a French physician. From the specimen I had seen of French practice, I was not much inclined to pursue it further; nor did their success in any part of the town justify any one in following them. I saw before me a very vigorous, powerful, and fatal disease, which performed its operations suddenly, and seemed to require the most powerful means to oppose it. Vigour of disease always requires vigour of treatment. I saw in the French practice no power to change the state of the body; I could observe nothing but a temporising system of nursing, and the disease committed entirely to its own course. I applied myself to such books as were within my reach, but they seemed to converse about other forms of fever, than those before me.

About this time, a most illiberal controversy was carried on by the practitioners of Jamaica, relative to the best mode of practice in the Remittent. The object of this dispute did not seem to be the discovery of truth; it became the means of expressing personal resentments, and rival enmities. Such disputes, conducted on these principles, always

disgrace

disgrace a profession, and bring the combatants into some degree of contempt. Public confidence is lost in men, who are declaiming against each other, and supporting opposite systems of treatment in the same disease. The advocates of each system were keen and active to enlist partisans under their banner, and, in the eagerness of party, truth was warped and perverted. The disputants in the Jamaica controversy, in the warmth of resentment against each other, forgot one general truth, that the least reflection might have taught them; they forgot, that in a disease, which attacked so many various constitutions, in a great variety of circumstances, no one, uniform, invariable mode of treatment could possibly take place with any chance of success. There cannot surely be a plainer maxim, than, that as circumstances and constitutions vary, that the treatment must vary also; but the practitioners of Jamaica universally ranged themselves under two banners; the one maintained the particular efficacy of mercury in all cases; the other, with equal ardour, maintained the superior efficacy of blood-letting, and other antiphlogistic remedies. I had the good fortune, before I quitted the West Indies, to meet

meet ſeveral reputable practitioners in Jamaica; and could not help regretting, that their talents had not been better employed, than in a virulent diſpute, which could not add to our ſtock of knowledge.

It was difficult to draw any concluſion, from the facts exhibited in this diſcuſſion; each party, as might be naturally expected, produced inſtances of recovery, under oppoſite modes of treatment, which each attributed to the benefit of their peculiar management. That men recover under very oppoſite circumſtances will not be queſtioned, by any one who has ſeen any practice; becauſe, though the general outlines of a diſeaſe may be ſimilar, there exiſt minute ſhades, which juſtify a different treatment. The conſtitution of two patients, under the ſame form of fever, may be widely different, and conſequently a variety will be produced in the effects. Beſides, oppoſite modes of treatment, ſuppoſing the caſes, to be the ſame, may cure, becauſe each mode operates a total change in the given condition of the body, and thus baniſhes the morbid phænomena; ſo that neither of the ſyſtems purſued in Jamaica, derive any great ſupport, from this caſual ſucceſs. If I recollect right, the ſucceſſes of each ſeemed nearly

balanced, if we may rely on the news-paper accounts publiſhed at Kingſton.

Puzzled, and diſſatisfied with theſe accounts, I betook myſelf to the ſtudy of the diſeaſe itſelf; till the phænomena ſhould teach me ſomething of their nature, ſo as to form a mode of treatment. Soon afterwards, I had occaſion to viſit ſome ſailors on board Mr. DALTON's ſhips in the road; they had been ill for ſome days, before I ſaw them, as it is the manner of ſeamen, to conceal their diſeaſes, till they can no longer be kept ſecret. I found ſeveral affected with a ſmart fever, the pulſe quick and tenſe, the countenance fluſhed, attended with a conſiderable degree of head-ach: one or two indeed were in a different ſituation; their countenance expreſſed anguiſh, they ſighed, inſtead of reſpiring, and the pulſe was low and feeble. In one of them, the hiccup had juſt begun. The firſt I directed to be bled pretty freely; and to take fifteen grains of James's powder at bed time, to which an emollient injection was added. They were conſiderably relieved; ſome degree of perſpiration had been produced; and the head-ach was diminiſhed; but they were extremely weak, and in one of them ſome yellowneſs appeared. To the other two I preſcribed a large bliſter each, over the region

of the ſtomach, with a camphire bolus, and a ſmall portion of opium. When I returned next day, I found one of the latter had expired towards morning; and the others were conſiderably relieved. They, however, recovered after a long convaleſcence.

It was a practice followed at Port-au-Prince by the medical gentlemen, when I firſt arrived there, and I purſued it alſo, the moment any one was ſeized, to order him a tepid bath, to cleanſe, purify, and relax the ſkin, ſo that there might be no obſtacle to the free exit of perſpiration. After the patient was put to bed, the belly was opened by a lenient injection; and eight or ten grains of calomel with a portion of James's powder, in the form of pills, were generally preſcribed, to be taken immediately. Theſe uſually procured the diſcharge of large quantities of bile, either by ſtool or vomiting. If however this quantity had no effect, which ſometimes happened, the injection was repeated, and a larger doſe of calomel, joined to ſome purgative, was again given. If they had ſtill no effect, the doſes were ſtill increaſed, till ſometimes an amazing quantity of calomel was ſwallowed without the ſmalleſt apparent effect. At

times a ſudden ſalivation made its appearance, which, in general, put an end to the fever; but which itſelf became a moſt formidable diſeaſe, which nothing could reſtrain. It is true, that many have recovered after a ſalivation was excited, but they are uſually thrown into a moſt dangerous ſtate of debility; from which they ſeldom attain any ſtrength. One caſe occurred in my own ward in the hoſpital, where the patient got entirely well, of the fever, but the ſalivation reſiſted every poſſible means I uſed, to reſtrain it. Mild purges, local applications near the mouth, to divert the circulation, ſtrong aſtringents, all were employed in vain; it proceeded without abatement till the exhauſted patient ſunk under it. Dr. Scot viſited this perſon with me, but all our treatment was in vain.

If after theſe preſcriptions, the fever did not abate, tepid baths were repeated, and diaphoretics adminiſtered; with mild diluent drinks, and ſuch form of nouriſhment, as was eaſily digeſted without giving uneaſineſs in the ſtomach. Such was rice water, boiled to a certain conſiſtence, in which the ſoluble farina, blended with the water into a cream. This cream was mixed with a ſmall portion of Madeira

Madeira and ſugar, and the patient directed to take ſmall portions of it, as the ſtomach would bear. If any diſtinct remiſſion came on, which was rarely the caſe, the cold infuſion of bark, with cinnamon water, or other cordial addition, was preſcribed; at other times the decoction. Though I can ſay little for the efficacy of the bark, except in the Intermitting form. I certainly obſerved no inſtance in the Remittent in which I could remark, that it produced any conſiderable effect at all. Other ſymptoms were combated as they aroſe. When the vomiting was ſevere, bliſters were applied over the region of the ſtomach; injections were preſcribed to remove any ſource of irritation in the bowels, and ſuch drinks were ordered, in ſmall quantities, as were of a nature to produce the leaſt poſſible irritation. Of this ſort, were beef tea, toaſt and water, rice water, with a little cinnamon boiled in it; and when the ſtrength and pulſe ſeemed to decay, and reſiſt all theſe means; wine was ordered, and the warmer ſtimulants, to ſupport if poſſible the living phænomena. Camphorated boluſſes, and bliſters to the extremities, were alſo added to the plan of treatment. Such were the outlines of our general

practice, on my first acquaintance with the disease.

It is to be remarked, that though blood-letting was occasionally performed, it did not become an indispensible part of our plan; for many instances of fever occurred, where blood-letting did not seem necessary; the person being previously weakened, by a long residence in the climate, and not in a situation to undergo any considerable loss of blood. Under this mode of treatment, most of our patients perished; very few, in my opinion, owed their lives to our practice; and yet we bestowed every possible attention. It is not easy to conceive the situation of a medical officer, placed in such a dilemma, surrounded by hundreds of his countrymen, in every stage of misery, looking up to him for assistance, when he cannot rescue them from impending danger, whilst every scheme of practice, every exertion of thought or industry, every experiment fail of success. It is then humanity, to consider every circumstance, that can possibly afford a chance; it is then, fair to deviate into new paths of treatment, which cannot be less successful, than what we have already tried. I have witnessed scenes of misery, I can never

forget;

forget; they impreſſed me too powerfully to be eraſed from my memory.

It is proper in a queſtion ſo important, as the treatment of this formidable diſeaſe, to be very explicit on every method that has been tried; and to reaſon on them calmly and fully, before any plan is relinquiſhed that might afford the leaſt chance of ſucceſs; and alſo to weigh carefully the grounds on which any new opinions are admitted as foundations for practice: I ſhall therefore take a view of the ſucceſs attending the various plans of practice in our hoſpitals, and, ſo far as I could collect information, in Jamaica. I muſt confeſs, that the plan I ſhall recommend had not ſo great a trial, as I might wiſh; in order to eſtabliſh it. The opinions and facts on which I ground it, did not occur to me in their full light, until a ſhort period before I left Saint Domingo; ſo that I had not many opportunities of applying the principles to actual practice; which alone is the true teſt.

Let us firſt attend to the plan of giving calomel. The uncertainty of its operation forms in my mind a very ſtrong objection againſt it; many patients have ſwallowed ſome hundred

grains without producing any effect at all. Now the rapid progreſs of the diſeaſe, requires ſomething on which we can poſitively rely, which will produce its effects quickly, and which in all caſes will cauſe ſome evident change. If, therefore, a medicine is uncertain in its operation, and does not act ſpeedily, it certainly does not promiſe to be an uſeful remedy in a diſeaſe ſo rapid, and of ſo much vigour. The inteſtines, by ſome means or other, are rendered very inſenſible in this fever, nor are they readily affected by any medicine, whether it is that they are covered over with a large ſecretion of mucus, which guards their inner ſurface, or that their general ſenſibility is impaired, cannot be eaſily aſcertained, but it is a certain fact, that whilſt the ſtomach is agoniſed and convulſed by extreme ſenſibility, the inteſtines maintain the moſt obdurate inactivity. Aware of this, Dr. THEODORE GORDON, if I miſtake not, uſed unction, and tried in this manner to convey mercury into the ſyſtem; but the abſorbents ſeemed equally inſenſible, as in the inteſtines; and when calomel really affected the ſyſtem, we could not by any means regulate the effect produced, or know what quantity to preſcribe, or when it would act. Whilſt we were thus amuſed, looking

looking out for the effects calomel was to produce, we were often disappointed, whilst the disease continued its course without interruption; and when it did produce salivation, the index of its having entered the system, that very salivation became a very serious disease, and left the patient in a state of dangerous debility. But it seldom happened that it produced this effect with any certainty; it much oftener remained dormant in the body, without producing any evident change. A medicine then, of this uncertain description, of which three grains will sometimes bring on changes; when at others, five hundred are taken without effect, cannot be relied on, in a disease, where every means we use, ought to create some alteration in the existing circumstances. But calomel has never shewn any specific power in this disease; its great use has been as a purgative, and perhaps an alterative of the given state of the system. In this view it was used, I think, by Rush, in the fever of Philadelphia. Nor is it without great use. It clears the intestines from the fæces which would otherwise remain, and prove very injurious; it assists in killing and expelling worms, which are often troublesome; it unloads the vessels, which determinations

minations may have ſurcharged; and it may contribute to effect an imperceptible change in the exiſting circumſtances of fever, ſo as to render it more eaſy of cure; but, ſo far as I have ſeen, it cannot be relied on as a principal agent in the cure of the Remittent.

It is true, that in our hoſpital, and in Jamaica, ſome recoveries happened where large quantities of calomel had been taken; but it had produced no viſible change in the circumſtances of the diſeaſe. The Remittent went through its uſual revolutions, without interruption, and ceaſed without an evident criſis. The movements of health ever ready to return, and more natural, from habit, are at hand, to commence their action; when the morbid action is not vigorouſly ſupported by the morbid cauſe. This is a fair, candid account of calomel; ſo far as I have obſerved its effects, or gathered them from the remarks of others.

Let us next examine Bark, as a ſpecific, which has been preſcribed frequently in the Remittent, and from which practitioners expected conſiderable ſucceſs. Whenever the inteſtines had been previouſly evacuated; and the

the Remittent had ſhewn the leaſt abatement in the ſeverity of the ſymptoms, ſo as to merit the name of remiſſion, I conſtantly preſcribed the bark, at firſt in ſubſtance, in doſes of a ſcruple, repeated as often as the ſtomach would bear it. But even theſe ſmall doſes, were often rejected, and left ſuch a degree of ſickneſs behind them, that I was under the neceſſity of abandoning the bark in ſubſtance. The cold infuſion, and the decoction, were uſed inſtead of the powder, in as large quantities as the ſtomach would bear, but even this was rejected. I muſt ſay that I never ſaw any inſtance, in which the bark decidedly put a period to the return of the fever; except in caſes where there was an evident tendency to very diſtinct remiſſion, previous to its uſe. In ſuch inſtances the Remittent is inclined to adopt the Intermittent type, and conſequently to aſſume a form leſs powerful, and more readily ſubdued by the bark, which in that ſhape of the diſeaſe, enjoys a ſpecific ſuperiority, over any other medicine. It happens frequently, when the Remittent has ceaſed for ſome days, that it will again return, with increaſed violence, and often on ſuch occaſions proves fatal. Nothing is ſo powerful in preventing ſuch returns as the uſe of the bark; which ought to be begun, the moment

moment the remiſſion is diſtinct. In inſtances, where the ſtomach could not retain the bark; the infuſion or decoction, I have directed it, to be given by injection; ſometimes in powder, to the amount of half an ounce thrice a day; mixed in three ounces of water, and with fifty drops of laudanum. At other times I preſcribed the decoction, or the infuſion, repeating the injection oftener. This mode of preſcription, I found very uſeful and ſucceſsful. The ſtomach was not irritated, nor did the patient complain of that nauſea and anxiety ſo diſtreſſing to his feelings. Every effect, that the bark commonly produces, was thus obtained, in an eaſy, agreeable form, without giving diſguſt, which too often ariſes from the repetition of this medicine. All then, that I could ſee, in the uſe of the bark, was, that where the fever, ſhowed a diſpoſition towards remiſſion, or actually remitted, it prevented, on many occaſions, the return or renewal of paroxiſms. I found it moſt ſucceſsful in the form of injection, becauſe in this manner I could carry the uſe of it much further than in any other way. I had no good opportunity of aſcertaining, whether the red or pale bark was moſt powerful; in the few inſtances, where I attempted this experiment, I could not obſerve

any

any ſuperiority in the red bark; it did not appear to operate in leſſer quantities; nor were its effects more ſpeedily produced. But it would require a more enlarged compariſon, between them, to aſcertain the fact, and a more ſedulous attention to circumſtances, than I had the power of paying.

Let us next examine the effects of Opium in the Remittent. This moſt uſeful medicine, the kind ſoother of agony and pain, requires to be uſed in this fever with the utmoſt caution. I have found the remarks of Rush on this ſubject, in the treatment of the Philadelphia fever, nearly coincide with the obſervations I made in my notes on the Remittent of St. Domingo. In the beginning, I always found it injurious, where reſtleſs nights, and anxiety tempted me to preſcribe it in large doſes. It procured no ſettled reſt; for a time the delirium was increaſed, to which a ſtupor rather than ſleep ſucceeded; and the next day languor, irritability, and weakneſs prevailed; in ſhort, laudanum did not ſeem by any means to amend the ſtate of the patient. It is, however, a very difficult point to ſettle, how much of a new ſtimulus muſt be given, to do away the action

action of one already operating in the body. Perhaps we fail in our hopes of opium from this very difficulty; and frequently from giving it in ſmall doſes; but the tendency to coma, and the irritability produced by it, hindered me, from carrying the uſe of it further, than what the agonies of the patient, extorted from humanity. Opium, unleſs it is puſhed ſo great a length, as to baniſh the action of other ſtimuli, can be of no ſervice; it is temporizing with the fever; and lulling the diſeaſe aſleep, perhaps to recruit its vigour. I have ſometimes found it uſeful, given by injection, in moderating the violence of vomiting; on ſuch occaſions, I have preſcribed two hundred drops, in a ſmall quantity of warm water. I have joined it alſo to antimonials and camphire, not ſo much with a view to produce a general effect in the ſyſtem, as to ſecure the retention of the other medicines in the ſtomach. In this view I found it ſometimes uſeful. I have ſeen the Remittent in many inſtances uſhered in by convulſions, which were repeated at the periods of exacerbation; in theſe caſes large doſes, by the mouth and by injection, produced happy effects, and ſeemed to leave the fever in a more manageable form. In

caſes

cases too, where remissions had commenced, and where a return was apprehended, I prescribed opium very freely; and, as I conceive, with good effects. Towards the happy termination of the Remittent, when the patient was fatigued by restless nights, I found opium of very considerable use; but it was freely prescribed; and other stimulants were given, when it was withdrawn from the patient. Upon the whole, opium cannot in our present state of knowledge be used with advantage, in the beginning of the Remittent; but it is of signal service in many occurrences during the disease.

Antimonials, under which we range JAMES's powders, did not appear to me of any great service; sometimes they produced perspiration, which afforded temporary relief from the symptoms; but they again returned, and continued their course. In my early practice, indeed till a short period before my departure, I was in the habit of continuing pretty large doses of James's powders joined with calomel; and though in general they produced some slight abatement in the symptoms, yet they could by no means be relied on as decisive means of cutting short, the course of the fever.

In one inſtance, where I had an opportunity of ſeeing the firſt evident effects of the Remittent, in a gentleman, who had been a few days landed; I preſcribed him twenty-five grains of James's powder, and ten of calomel, after a warm bath: an aſtoniſhing ſweat was raiſed, and he had ſeveral copious, and bilious ſtools; there was a complete remiſſion next morning; when he was ordered a ſcruple of bark every hour, which he continued for ſome days without any ſymptoms of a return, and he recovered without any further repetition of the diſeaſe. It is probable, that in many inſtances, we might be thus ſucceſsful, if we had an opportunity of being called in ſo early; but it more frequently happens, that the diſeaſe has run a courſe of three days before its aggravation obliges the patient to call for aſſiſtance. The firſt approaches, in fact, are inſidious, nor is any one aware of danger; a pleaſing languor induces ſleep, and a deſire to recline, nor is it, till head-ach and pains in the bones arouſe attention, that a perſon thinks himſelf unwell. At leaſt theſe were the ſenſations I felt in an attack of this fever, which ſoon diſappeared. It is particularly difficult, to ſee the early ſtage of the Remittent among ſoldiers.

ſoldiers. They never complain in the beginning, and have ſuch an averſion to go into an hoſpital, that they conceal their ſituation till the diſeaſe has confirmed itſelf in their conſtitutions. It is not ſurpriſing that ſoldiers diſlike general hoſpitals; they ſee very few return, who once enter their gates.

Having conſidered the chief means uſed to combat the Remittent; I ſhall now examine the effects of Blood-letting ſo far as I had an opportunity of obſerving them. Having been for ſome years in the habit of ſeeing the inhabitants of warm climates, I was impreſſed with one general opinion relative to blood-letting, which was, that the inhabitants of warm climates, after a reſidence of any length, could not afford to ſpare blood, from the purpoſes of the animal œconomy. To this opinion I was led, by obſerving in general the lax ſtate of the fibres, of thoſe who reſided in warm climates; the diminution, or rather the abſence of the roſeate European bloom; and the great waſte of the fluids by perſpiration. Beſides theſe conſiderations; I remarked, that though the inhabitants of warm climates poſſeſs great activity; and are more ſprightly and lively,

than the Europeans; they, by no means poſſeſs the ſame ſtrength. Whether a certain ſtate of the blood, that we call denſe, red, and healthy, be the cauſe or effect of ſtrength in the fibres, may be difficult preciſely to aſcertain; but this, we aſcertain diſtinctly, that it is intimately connected with ſuch a ſtate of the body. The ſtate of ſtrength, and roſy colour, are always connected with a denſe ſtate of the blood. But the pale relaxed habit never produces, denſe and red blood. Phyſicians have drawn ſome concluſions from theſe phænomena. They infer that the firſt claſs bear blood-letting, without any material injury, and often with advantage; whilſt the ſecond, cannot bear evacuation, without injury to the conſtitution. Impreſſed with this doctrine, I held blood-letting in a warm climate to be in general improper; without reflecting, that although this reaſoning might apply to thoſe, who had for any time reſided there, it could not apply to new comers, who had not been exhauſted by perſpiration or relaxed by heat. Beſides, even in the feeble claſs, who may have reſided for ſome time in a hot climate; if they are ſeized with acute diſeaſes, I can ſee no impropriety in blood-letting; becauſe this evacuation, by remov-

ing a ſtate which would deſtroy the ſyſtem, muſt be leſs injurious, than a temporary debility. I ſhould not therefore heſitate in ſome ſtates of inflammation, to bleed freely, even in warm climates. Though I would not puſh the evacuation to the ſame extent as in Europeans, newly landed. I am doubtful, whether in all caſes of hepatitis, blood-letting be proper; as the inflammation, may be of the paſſive kind; and mercury ſeems to ſucceed in the cure, by its ſtimulant power chiefly.

From this view of the conſtitution in warm climates, I was improperly led to conſider blood-letting as always injurious, and conſequently abſtained from it. I found beſides, that the gentlemen, who had a longer experience than myſelf at Port-au-Prince, had not adopted it as a means of cure. The French indeed had bled very freely, at every ſtage of the diſeaſe, but they carried it beyond the proper bounds, and I ſaw an inſtance or two, where their patients ſunk under this evacuation. The fate of Lieutenant S——, of the 18th light dragoons, was certainly haſtened by this treatment. If blood-letting produces good effects, which I believe it does in moſt inſtances, it muſt be performed very early in

the diſeaſe, and be performed with boldneſs. I ſhall have occaſion to explain this more fully hereafter. When I began maturely to conſider the diſeaſe, and the ſubjects which it attacked; when I obſerved its phænomena and ſymptoms with accurate attention, I then judged that in moſt inſtances an early blood-letting might be uſeful. After I had formed this opinion, the firſt opportunity which occurred of trying it was on my worthy friend Captain S——, of the Royal Artillery, an uſeful and active officer. I happened on my return from another ſick officer to call on him by chance, and found him with a very ſmart fever; his pulſe quick and ſtrong with intenſe heat, an inclination to vomit, and his face very highly fluſhed. Captain S—— was of a florid complexion, plethoric, and vigorous. He breathed with difficulty, and inſpired with a ſigh. There was ſome ſlight delirium, and want of recollection. Having forgot my lancets, I ſent a ſervant for them, and waited by his bedſide, till they arrived. Leaſt he ſhould be alarmed for himſelf at ſuch a meaſure; for it was a late hour, I propoſed it to him, without urging it, as abſolutely neceſſary; he agreed without heſitation; and I accordingly took about ſixteen ounces from

his arm. He was ſenſible of inſtant relief; the head-ach abated; the fluſh in his countenance ſubſided, his breathing became eaſy, and his recollection complete. He turned round in his bed, and fell into an eaſy, profound ſleep. I viſited him next morning; when I found him much more eaſy than the preceding day; though the fever had not wholly left him. He had enjoyed a comfortable night, and felt no diſtreſſing ſymptom, except a ſenſe of laſſitude and wearineſs, inſeparable from fever. His tongue however had a bilious aſpect, and was covered over with a yellow cruſt. I preſcribed him ſix grains of calomel, with ten grains of James's powder; which operated in the courſe of the day; and procured the diſcharge of much bilious matter. The fever became more moderate, though there was for ſeveral days a want of recollection, and ſome degree of delirium preſent. When the remiſſions permitted me to uſe the bark, it was given, and the cold bath completed the cure. Captain S—— was thirty years of age.—The great difficulty in the Weſt Indies, was to procure ſtrength after the fever ceaſed; this was often unattainable without change of climate.

The next caſe in which I tried the effects of blood-letting was in my friend Capt. C——, of the 41ſt, whoſe exertions at Bizoton, and wherever the ſervice required him, at length brought on an attack of the Remittent. It has been rightly remarked by Rush, that the cauſe of fever often lurks in the body without being called into action for many days; and I have no doubt, but it may again paſs out of the body, without producing any morbid change; unleſs it be aſſiſted by the addition or abſtraction of other ſtimuli. Of the truth of Rush's remarks, I have ſeen numerous proofs. Both Captain C—— and Captain S—— were attacked, after having undergone conſiderable fatigue on ſervice. They were much expoſed to laborious exertion. When I viſited C——, I found him affected with a conſiderable degree of fever; he complained of great pain in his back and loins; and an inability to maintain an erect poſition. There was conſiderable heat, and ſome degree of head-ach. Having a lancet in my pocket, I inſtantly bled him pretty freely, to the amount of twelve ounces. I ordered his feet to be bathed in warm water, and preſcribed one ſcruple of James's powder, with ten grains of calomel. Theſe produced nearly the ſame

effects

effects as in Captain S———'s caſe, and he found himſelf ſo well in the morning; that he was imprudent enough to venture out, and ride. The ſubſequent uſe of the bark prevented any return. In ſeveral caſes among the ſoldiers, I performed the ſame operation, and preſcribed the ſame medicines, when I had an opportunity of ſeeing them in the early ſtage. If the blood-letting is not performed on the ſecond, or at furtheſt on the third day, I do not imagine it will have ſucceſs. But in the caſes where I had an opportunity of acting on the firſt or ſecond day, the event was in general fortunate; though ſome periſhed; nor is it likely that any method will ever be diſcovered, which ſhall invariably promiſe ſucceſs. But we do a great deal, if we leſſen the mortality.

In another inſtance, in Captain L———, of the 82d regiment, a very ſtout, plethoric man, whom I ſaw the morning after the fever had made, its manifeſt appearance, I directed a very large blood-letting to the amount of ſixteen ounces. The blood, as Mr. Bell, ſurgeon of the artillery, informed me, was ſizy. Capt. L——— felt very conſiderable relief from the evacuation; the head-ach abated and his re-

collection became more clear; he was even cheerful; and though naturally a timid man under illness, spoke with confidence of his recovery. After the blood-letting he had several injections, and took one scruple of James's powder, without calomel, as the injections had operated very freely. The powder had produced some perspiration, and he was in the evening much better. Next day, however, the head-ach again returned, with some degree of delirium; and the pulse became rapid, and strong. I directed Mr. BELL, to take away eight ounces more blood; and repeat the powder and injections. After this, Dr. SCOT and myself visited him late at night, and found him so free from fever, that we concluded, he had every chance to do well. I never saw him afterwards, having been taken very ill myself that night, and rendered incapable of returning to him any more. I understood however, that next day, he had an exacerbation, and vehemently demanded some porter or wine, which being delayed or refused, he was agitated by a most furious passion, after which he sunk into an irrecoverable debility, and expired with spasms and convulsions. This is not the only instance in which violent excitement has proved suddenly fatal.

fatal. I confefs, that his death appears to me, to have been brought about by anger only.

To thefe cures, too few to form any decifive opinion, I fhall add, that Dr. JACKSON, whofe fagacity and attention are equally confpicuous, was much more fuccefsful, after he made more free with the lancet. The 56th regiment had been fuffering from the Remittent very feverely at the Mole, both before and after they were landed; they had loft a number of men, but when Dr. JACKSON took the management of the fick, and bled more freely; the mortality diminifhed confiderably. And though the fever defcribed by RUSH, differs materially in being highly contagious, yet there are circumftances of great fimilitude in the fymptoms; and I look on Dr. RUSH's practice as a confirmation of the benefits of blood-letting.

Let us next attend to the effects of Purging in the Remittent. As the inteftines, from the beginning, are affected with inactivity, it is neceffary that they fhould be roufed by ftimuli, to difcharge their contents. It has been obferved befides, that bile is very amply fecreted, and at times paffes to the inteftines, where

it

it would become putrid and ſtimulant; and would of itſelf be a ſource of fever. It is proper then to employ purging to clear the inteſtinal canal from fæces, which, if retained, would prove an unpleaſant ſtimulus, to the whole ſyſtem. In ſuch caſes of inteſtinal inactivity and retention of fæces, it is probable that ſome particles of a putrid nature paſs through the lacteals into the blood, where they cannot produce any ſalutary effect; but contribute to the general irritation then preſent. But purging is a means of diminiſhing re-action, and leſſening the velocity of the pulſe. The increaſed ſecretion from the veſſels of the inteſtines, diminiſhes the abſolute quantity of the circulating maſs, relieves the veſſels from tenſion, and renders the danger of determinations infinitely leſs Purging too, I conceive in many inſtances may remove miaſmata from the inteſtines, which might add to the ſeverity of the diſeaſe. It is a mild ſpecies of evacuation, which patients inclined to paſs into a low ſtate, bear better than any other. I queſtion, however, whether it be very proper except in the early ſtage; as it may be the means of increaſing the irritable ſtate of the ſtomach. And beſides, as we wiſh if poſſible to avoid determinations,

tions, to the inward organs, it is doubtful, whether purging may not increaſe this tendency. In this view, it is better perhaps to employ it early; and in the further progreſs of the diſeaſe, to truſt to injections. Theſe clear, not only the rectum, the natural depot of the fæces; but a ſtimulus is commonly applied to the upper inteſtines, which ſolicits them to propel their contents. I have, in ſome caſes, placed much reliance on this evacuation; where the patient has been full, but of that habit, which inclines to melancholy, or nervous, and which would not bear the lancet. But I cannot ſay I have reaſon to boaſt of its ſucceſs.

On the evening of the 17th June, 1795, I was called to viſit my friend Capt. I——, of the 69th regiment. I found him in bed, complaining of a dull heavy pain in his head; with a very ſlight nauſea, and a ſenſe of obſtruction in the noſtrils, as if he had caught cold. He ſaid, the firſt ſymptom he had remarked was drowſineſs, and an inclination to recline. The pulſe was frequent, but not hard, and the tongue ſlightly furred over, with a leaden coloured cruſt. The ſkin was open, with very little increaſe of heat. Capt. I——

was

was about thirty years of age; full but not florid; and of a bilious aſpect. I directed his feet to be bathed; and gave him four calomel pills, containing in all ten grains. On the 18th, I called in the morning; the general ſymptoms, much as on the 17th; the head-ach increaſed; he had vomited the pills, ſoon after he took them, paſſed the night rather reſtleſs, and with the pills, had brought up a large quantity of deep coloured bile, but had no ſtools. I ordered him the calomel again, but in ſmaller quantities, to be repeated, till ſome effect was produced. During this day he had twelve evacuations; which, as he ſaid, ſcalded him in the paſſage; but the head-ach and drowſineſs abated; though there was a kind of ſtupor ſtill remaining. I wiſhed now to apply a bliſter to the neck, but he poſitively objected; and ſaid he only wanted ſomething to procure reſt; after the fatigue of the preceding night. In the evening the tepid bath was ordered, and he took at bed-time

℞. Aq: ammon. acet. ℥i.
Cinnamon. ℥ſſ.
Tinct. op: gtts. xxx.
Sumend. h. ſ.

On

On the 19th, found him much refreſhed, after a ſound ſleep, and a glowing general perſpiration; the tongue continued loaded; and there appeared ſtill, a great determination towards the head. There was a kind of inſenſibility to common occurrence, and a careleſſneſs as to the event, which I have often ſeen, a preſage of danger. I ordered him again the calomel pills. 20th, he paſſed the night without any ſleep, but felt no pain; the pills operated towards morning, and produced ſeven complete evacuations. The heat was nearly natural, the tongue covered with the leaden coloured cruſt, but clearing from the edges and tip inwards, leaving them of a bright red colour. The head-ach was gone, the pulſe 88 in a minute, rather contracted, very little thirſt, the countenance duſky and grim, with a ſtrong propenſity to ſleep.

℞. Infuſ. cort. Peruv. ℥viii.
Tinct. colomb. ℥ii.
Aq. ammon. acet. ℥iſſ. M.

Of this he took a ſpoonful every half hour. During the day, the bark ſat eaſy on his ſtomach, and he paſſed a good deal of bilious matter in his ſtools; but the pulſe became creeping and ſmall, and the ſkin continued relaxed,

relaxed, without moiſture. In the evening I directed him, to be waſhed with cold water; and to have ſome buckets of it daſhed over him; after which he took at bedtime,

℞. Aq. ammon. acet. ℥ſſ.
Pulv. Jacob. gr. xii.
Tinct. op. gtts. xv. M.

He was ordered wine and water for drink, in the proportion of one third of wine. 21ſt. I viſited him very early in the morning; and found him very comatoſe, and the pulſe juſt perceptible. I immediately rode off to the hoſpital, and returned with three bliſters and a camphorated mixture. But I found the agitation of death upon him, and he expired placidly and calmly at twelve at noon on the fifth day, from the time he had firſt complained; which happened one day before I had viſited him. It is a curious coincidence, that Lieut. B——, of the ſame regiment, who was taken ill at nearly the ſame hour, died alſo this day, within half an hour of Capt. I——.

Here was a caſe without any remarkable ſymptoms of determination, except towards the head, and I am of opinion, it muſt have been of the ſerous kind, as the face never ap-

peared

peared flushed or red, which would have probably happened, if the vessels of the head were surcharged with blood. I therefore judged purging the most proper evacuation; though I regretted afterwards, that I had not bled him, and that I had not insisted on applying blisters early. But we always regret where, we are unsuccessful. Another part of my plan was to excite perspiration, and alter, if possible, the given state of the body; when these views failed, I had only to support the constitution and vital powers by such means as are commonly used on similar occasions. In cases like the present, where the vital powers are gradually sinking into a hopeless inactivity; where the pulse is hardly felt; where the patient does not complain perhaps of any pain; I have sometimes used the warmest and most stimulant powders, with some effect. This hint I took from the practice of my learned colleague Dr. JACKSON. I have prescribed brandy with Jamaica pepper, and given pills made up of Cayenne pepper, camphor, and opium. What will not one try, that can afford the smallest chance, in such a miserable dilemma, when he sees the common efforts feeble and useless? By these means, I was once successful, in the case of a soldier

a ſoldier in the 18th light dragoons, of whom I had abſolutely deſpaired; the pulſe was nearly gone, convulſive twitches, were every where felt; his extremities were cold, and he exhibited every appearance of diſſolution. He took in the courſe of ſix hours, 20 grains of Cayenne pepper, ſix of camphor, and two of opium. The pulſe gained ſtrength, the extremities became warm, and the features, which had ſhrunk, and aſſumed the aſpect of death, began to fill out and have expreſſion; the anguiſh in the eye vaniſhed, and in the evening he was able to articulate. This was a kind of reſurrection from death. One inſtance of this ſort juſtifies innovation, and occaſional bold practice. His name is FITZGERALD; and I believe he is now alive with his regiment. When common practice fails, and common expedients; it is a ſacred duty to vary our means, and mode of treatment; otherwiſe we become the idle, inhuman ſpectators of death. It is no argument, to ſay, that where we have no leading and preciſe principle to guide us, there muſt be danger, and we muſt practiſe in the dark. In our moſt deciſive practice, there is a great deal we do not accurately know, and were we only to act, where we have theſe preciſe principles,

ciples, the caſe in general would be committed to nature. If we aſſume the name of phyſician, let us merit the appellation, and give aſſiſtance. We muſt either act boldly or do nothing. Practice in my opinion, has hitherto been too tame and feeble; too much has been ſacrificed to prejudice; and a veneration for opinion. We neither think or act for ourſelves in medicine.—Fear has depreſſed us; and we have ſurrendered our reaſon to ſyſtem and doctrine. Unſucceſsful caſes, carry perhaps more inſtruction, than the ſucceſsful.—We are never to deſpair; it is a common, but a good medical maxim, to guide the phyſician, that while there is life, there is hope; we ought never to ceaſe to act, whilſt the body can be acted on. While the vital ſpark animates the frame, though it may be dim and feeble, it may be rekindled, and ſtrengthened; the fibre may again produce the animal phænomena, in their common order; and the phyſician enjoy the unequalled happineſs of recalling a fellow being to exiſtence. But we are more particularly called on for exertion, in a fever like the Remittent of St. Domingo, which has hitherto baffled every attempt, and committed unheard of deſtruction; we will be juſtified in every expedient, and humanity itſelf will

 apologiſe

apologiſe for boldneſs and innovation. I am not without hope, that we ſhall yet cure this formidable diſeaſe.

We now come to conſider the effects of Warm and Cold Bathing in the Remittent. Warm baths have been uſed in medicine from a very early period; they were recommended by the Greek and Roman phyſicians in the cure of many diſeaſes. Among the Greek phyſicians, there is reaſon to believe that cold bathing was practiſed with great boldneſs; though they are deficient in detail. In warm climates, tepid baths have always ranked among the luxuries of the great and voluptuous. But independent of the pleaſing ſenſations created by them, they become particularly eſſential from other reaſons. The matter of perſpiration incruſts and reſts on the ſkin, ſo as to form obſtructions, and in ſome degree block up the exhaling veſſels. The tepid bath, by waſhing away theſe impurities, and ſtimulating the veſſels, enable them to carry on their functions with eaſe and advantage. It is inconceivable, the hilarity and pleaſant feeling, which the warm bath produces. The ſpirits are enlivened; and a cheerfulneſs enſues; as if a burden was

removed; as it is often expreſſed. But beſides theſe evident uſes, of tepid baths, in relaxing, cleanſing, and ſtimulating the cutaneous veſſels; there is another purpoſe of great utility. The warm bath, always increaſes ſenſibility, and leaves the body in a ſituation to be acted on. Senſibility is the great characteriſtic of animated matter, it is what chiefly diſtinguiſhes it; and forms the great baſis on which changes are produced. Without ſenſibility, we in vain attempt to act on the human ſyſtem. In this view I have often uſed the warm bath, and have found it highly beneficial. Cold bathing alſo has numerous advantages in warm climates and their diſeaſes; it renovates the ſtrength of the animal fibre; and by the ſudden ſhock agitates all the vaſcular ſyſtem, producing in it, a very quick change. But its chief effects are, to impart tone and ſtrength to the veſſels, to invigorate the general ſyſtem, and by the agitation, remove obſtructions in the more minute ramifications, of arteries and veins. In this view, I have found cold bathing very uſeful. Cold bathing has been of late years introduced into the treatment of fever. The Indians of America, followed this plan very ſucceſsfully, and in a very curious manner.

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They ſtrictly purſued the plan of effecting a total change in the ſyſtem. Their manner was, to ſhut the ſick up, in what is termed a wigwam or hut. They took a large ſtone, and heated it in the fire till it became red; it was then taken out and a bucket of water poured over it; the ſmoke or warm vapour could not eſcape; ſo that the patient was not only breathing this warm and humid atmoſphere, but was, as it were immerſed in it. By this treatment, a perſpiration was uſually brought forth, in the very height of which, the patient was carried out and plunged into cold water. This practice, which we ſhould conſider very hazardous, is ſaid to ſucceed wonderfully amongſt them, and to baniſh fever in moſt inſtances. We do not exactly know the ſpecies of fever which reigns amongſt them, but from what I could learn, it appears to be of the Remittent form. At any rate, the fact of their effecting cures, in this manner, in the early part of the diſeaſe, is perfectly aſcertained. It is a daring, bold practice, but if ſucceſs crowns it, why not adopt it.

I remember when in the Eaſt Indies; on board the Airly Caſtle Indiaman, ſome caſes

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of Remittent occurred at Diamond Harbour, where the company's ſhips anchor. Several periſhed in ſpite of every attention; one of them however in a fit of delirium jumped out at one of the ports. He was immediately picked up, rubbed dry, and put to bed. His ſenſes returned inſtantly, his pulſe became more regular; he fell into a profound ſleep; and next morning there was a complete remiſſion. He recovered afterwards very ſpeedily. I recollect another inſtance perfectly ſimilar, on board the Princeſs Amelia Eaſt Indiaman, in the ſame place. The Remittent had carried off more than half the ſhip's company; though every aſſiſtance, every comfort the ſick could have; was procured by Capt. Millet, the humane commander of the ſhip. A ſeaman of the name of Davies, a very ſtout athletic man, in whom the Remittent had at times alternated with epilepſy, jumped overboard; at the moment he did this, an alligator was along ſide the ſhip. He ſeemed to become at once ſenſible of his danger, and ſwam with great vigour till he was aſſiſted. I ſaw him the moment he came on deck; his countenance, which before was grim and unpromiſing, aſſumed a more mild and temperate aſpect; his pulſe, which had been extremely quick and

feeble,

feeble, was now ſlower and fuller; and his recollection, which had been confuſed and indiſtinct, became clear and accurate. I directed him to be waſhed over with brandy, and put to bed; he fell into a profound ſleep, which terminated in an univerſal perſpiration, warm, and profuſe. The conſequence was a very diſtinct remiſſion, and a ſpeedy recovery.

Theſe caſes made a ſtrong impreſſion on my mind, and I was determined to take an opportunity of imitating a practice, which accident had pointed out. I had not then ſeen the book of my friend Dr. JACKSON. An opportunity was ſoon furniſhed, of trying it further; upwards of thirty men were in my ward, at the Diamond Harbour hoſpital, and I commenced daſhing buckets of water over them from ſome height; but whether the water was not ſufficiently cool, or the patients being in expectation did not feel the ſhock, or that the circumſtances were really different; I do not know, but I was not by any means ſo ſucceſsful, as I had hoped from the two caſes, I have juſt related. From the time I peruſed Dr. JACKSON's book, I became more fully perſuaded that cold bathing, or rather the daſhing of cold water might he made very uſeful

useful in the treatment of fever. And accordingly, I sedulously applied myself to observe its effects. The beneficial consequences from cold water, seem to me to arise entirely from a revolution it produces in the given state of the body; by which the whole morbid phænomena are changed. In the very early stage of fever, before it has established its peculiar mode of action; before the re-action begins, I think the practice of dashing cold water on the patient, may be very useful. But after the fever has established its peculiar morbid action, after the circulation and vessels re-act, after determinations to particular organs have begun, I hold this practice less certain. Because it is not likely to banish the mode of acting then fixed; and the sudden energy of the vessels from so powerful a stimulus, may assist determinations, and promote an inflammatory disposition. Previous evacuation may perhaps guard against these mischiefs. In cases, where sensibility is much impaired, where the recollection is confused, where the system is as it were oppressed, and wants energy to remove the oppression, where the pulse is feeble and frequent, in such cases, I hold the dashing of cold water, to be one of the best and most powerful remedies. The general effects I ob-

ſerved to reſult from this practice, where it was happily applied, were, an improved recollection, more cheerfulneſs of aſpect; a diminution of heat and anxiety, the pulſe rendered more full and equable; a tendency to ſleep and perſpiration, and ſometimes a diſtinct remiſſion. I have ſaid that theſe were the general effects, where daſhing of cold water on the patient was happily applied. It muſt not be concealed, that I have uſed it often without ſucceſs, in caſes, where I promiſed myſelf much from its uſe. I have not at times been able to obſerve, that it produced any great effect. We have yet much to learn from experience, on this ſubject. The duration of applying water, the repetition of it, and the peculiar circumſtances in which it is moſt uſeful, are not as yet accurately aſcertained. I am of opinion with Rush, that it will be moſt uſefully employed, in caſes, where there is much diminution of nervous energy. In order to imitate the Indian ſcheme, as nearly as I could; I often premiſed the warm bath, and whilſt the patient was ſitting in it; I had two or three buckets of cold water ſuddenly daſhed on him. I employed the warm bath in ſuch caſes, merely to create a greater degree of ſenſibility, that the cold water might be

 more

more acutely felt, and produce its change or action, with more certainty. Surprise adds greatly to the power of these remedies; we may often fail, because the patients have summoned resolution to bear the shock. It is often impossible to take them by surprise; when once your practice is known, they expect the cold water, whenever the warm bath is ordered. Besides, it is doubtful whether dashing cold water on the body produces, the full effect of a plunge, by which every point in the system is at once affected; and in the two cases I have related, the cold was longer applied, than it ever is in dashing. These are points, for experience to determine.

In one case, where I persevered, and repeated the application of cold water, I was so fortunate as to succeed; and to preserve to his king and country a very valuable officer, in most perilous circumstances. I allude to Col. H—— of the twenty-ninth light dragoons. His dangerous situation is well known to many officers at Port-au-Prince. Col. H—— is of a thin, spare habit, but active, and rather vigorous. Soon after he arrived at Port-au-Prince, he was seized by the Remittent. From the very beginning the vital energies,

energies, were remarkably overpowered; a delirium commenced with the fever; the pulſe was feeble and very quick, the ſkin dry and locked, and the countenance expreſſive of anguiſh and danger. I removed him to a ſituation, where I could daily viſit him as often as his caſe required. His bowels were emptied, and I directed his ſervant to expoſe ſome buckets of water to a ſtream of air, in a ſituation, where the ſun could have no acceſs, ſo as to have it as cold as poſſible; I then had him brought out into the viranda, and ſeated on a chair, at a time he was ſo feeble, that he trembled all over, and manifeſted a diſpoſition to faint. When ſeated on the chair, I poured over him a bucket of the water, from the elevation of another chair placed behind him. He was then rubbed dry and put to bed; the conſequence was, that his pulſe became fuller and ſtronger, his recollection more clear, and his ſkin relaxed, with a gentle perſpiration over it. This ſtate continued till towards evening, when ſymptoms of a freſh exacerbation appeared. He was again taken to the gallery, and another application of cold water made as before, with the ſame effects. The next day, the water was applied three times; on the third ſome ſymptoms of determination

to the ſtomach came on, and ſome degree of coma; the yellowneſs too begun its appearance, and the pulſe became fluttering, quick, and feeble. A large bliſter was placed over the ſtomach, and one on each ancle; the cold water was again repeated three times; and at each time two buckets of it, inſtead of one, were thrown over him; the effects were remarkable; the pulſe became inſtantly more regular, the *vis vitæ* was increaſed, and recollection became diſtinct. The bliſters roſe well, the vomiting ceaſed, and the danger ſeemed to be averted from the ſtomach. The application of the water was repeated in the ſame manner, the fourth day; the yellowneſs became deep, but a complete remiſſion took place on the fifth; when the bark was adminiſtered to prevent any renewal of the paroxyſm. This was one of the moſt dangerous caſes of the Remittent, in which I ever ſaw a recovery happen. I adviſed Col. H——, to proceed to Jamaica, from which he was obliged afterwards to go for Europe. He was affected with dyſenteric complaints, and did not regain his ſtrength. It is with great pleaſure I add, that he is now in England perfectly recovered. This was the moſt deciſive caſe of the effects of cold water I ever met with. I certainly attribute to it, the

the whole of the ſucceſs. Becauſe good effects ſo inſtantaneouſly followed the application; and I am convinced the remiſſion was obtained ſolely from this practice.

In the caſe too of my amiable and regretted friend, Major C——, of the 56th, I had obtained, by the ſame means, a complete remiſſion; though Dr. JACKSON, from the beginning augured danger. The fever had been abſent for two days before we arrived in Jamaica. The inhabitants of Kingſton, who uſed to receive lodgers, were impreſſed with an idea of the Yellow Fever's being infectious, and would not admit any ſick from St. Domingo. I went from houſe to houſe to procure accommodations for him, and at length, very late in the evening, I ſucceeded; after much difficulty. During the day he ſuffered the greateſt anxiety, from an eagerneſs to quit the veſſel, and get on ſhore; we landed about eight in the evening, and he was conveyed in a gentleman's curricle, to his chambers. At this time he had ſufficient ſtrength to walk, and was ſomewhat cheerful. He had his feet bathed and went to bed. He paſſed the night uneaſy and reſtleſs, he ſighed frequently, and I foreſaw, that the agitation and anxiety he had ſuffered coming on ſhore, would recal

recal a fresh paroxysm of the Remittent. I called to my assistance Dr. GRANT, an eminent physician of Kingston, and an opening medicine was prescribed. About eleven however, in the forenoon, the paroxysm made a distinct, and formidable appearance; the vital powers, were oppressed and sunk at once; several blisters were applied, and cordial medicines; but all was in vain, the disease baffled every attempt, and this truly valuable man, perished about ten o'clock at night; whilst I was supporting him in bed. This case proves the danger of anxiety and fatigue in recalling the fever to new action; such returns are always dangerous, as they find the patient in a state of great debility.

In another case, Major C—k's, 69th regiment, whom I saw very early in the disease, so as to give the warm and cold bath every fair chance, I proved ultimately unsuccessful; for though at different times remissions were procured, and the strength and spirits seemed to improve, yet the fever still returned. But from the beginning, the deep sighing was present, a symptom I have ever seen formidable; he had at times such distinct remissions, that Dr. JACKSON, whose sagacity is seldom

ſeldom diſappointed, thought he had a fair chance of recovery. In this caſe there appeared ſome ſymptoms of determination towards the liver, and Dr. JACKSON recommended mercurial unction, joined with volatile liniment, and accordingly a conſiderable quantity was thrown in, but without effect. Calomel too had been very liberally employed, a combination of all the plans was adopted, and the daſhing of water in all its forms had a fair, diſtinct trial. The fever, however, had its fatal termination on the ninth day. Major C—k had been much exhauſted by ſervice, he loſt his arm in Corſica, and was otherwiſe much hurt, and had then recovered with difficulty. His habit, was what we call in the Weſt Indies bilious, and he had always lived freely. I cannot help remarking here, what I have often witneſſed in the fatal caſes of this diſeaſe; an uncommon calm fortitude, which perfectly foreſeeing death, talked of it with the moſt heroic indifference; whilſt the mind was ſerene, acute, and firm. This I have met equally among the privates and officers; and though in the courſe of the diſeaſe, they have expreſſed ſome fear of the event, and ſeemed anxious, yet when it approached the cloſe, they became at once

dauntlefs and indifferent. I have feen men calmly fettling their affairs, after the circulation had ceafed for hours, to be perceptible. From what this ferenity of mind, fo general in this difeafe, has its origin, it is impoffible to determine. A few hours before Major C—k expired, I came into his room, he looked at me ftedfaftly; and ftretching out his hand, in which no pulfe was perceptible, he faid, my time is at laft come; my feelings tell me I muft die in a very fhort time. I am obliged to you for your exertions; he called his fervant, and afked if a little wine would injure him; I told him not; he defired him to fill out two glaffes, of which he begged me to take one, and holding the other himfelf, he obferved, that we had paffed many happy hours together, and that he now addreffed me for the laft time. He drank a little of the wine, gave directions about his burial, fhook me cordially by the hand, and turned round in his bed, where he very foon afterwards expired.

I attended another cafe, with my friend Dr. Fraser, of the 18th light dragoons, whofe profeffional abilities are very well known. This was a cafe of an officer of great promife,

in whom all the army felt particular intereſt. In this inſtance, aſſiſtance was given from the very beginning, and Dr. FRASER judiciouſly combined every mode of treatment, that had the leaſt chance of ſucceſs. The daſhing of water hot and cold was tried ſedulouſly. Calomel had been given combined with purgatives; blood-letting had been freely uſed; and towards the cloſe, bliſters and cordials, and yet after all the vigilance, and care employed, the patient periſhed. The ſituation in which this officer caught the diſeaſe, muſt have given the higheſt activity to miaſmata. The regiment was ſtationed at a ruined plantation, ſurrounded on all ſides by a circle of marſhes, from which the cauſes of the Remittent muſt have been conſtantly iſſuing in their utmoſt vigour. The conſequence was, that numbers fell down, and Dr. FRASER aſſured me little impreſſion could be made on them, by any means, he could ſuggeſt. Some of them came into the general hoſpital; they for the moſt part periſhed; and we could boaſt of very little ſucceſs. But though this proves, that in certain circumſtances of diſeaſe, we are not always ſucceſsful, it does not forbid the hope, that we may yet become more fortunate, from further experience. I am ſtill perſuaded

ſuaded, that proper management may do a great deal, and a happy combination of treatment, effect many recoveries. In the efficacy of daſhing cold water, I hold very conſiderable confidence, in changing and altering the given ſtate of the body, and introducing a ſalutary revolution. In my own caſe, when threatened with the Remittent, and when in fact, a paroxyſm had begun, I found the greateſt benefit from vigorous treatment. My head ached ſeverely, the pain in my loins and back were intenſe, and I felt an almoſt inſurmountable inclination, to recline and ſlumber. An inſtantaneous determination had been made to the ſtomach, and the vomiting had begun: in this ſituation, I directed my ſervant to prepare the warm bath, into which I immediately plunged; when I had remained there, about five minutes, I ordered him to have in readineſs, three buckets of cold water, drawn from a well adjoining the houſe, I then ſat up in the bathing tub, and in that poſition the three were poured over me. I felt a conſiderable ſhock, and my headach increaſed to great violence; I aroſe and was rubbed down witha rough towel, and inſtantly put to bed. When I laid down, I took a ſcruple of James's powder. The vomiting had ceaſed on my

getting into the bath. My headach abated after laying down, but my ſervant ſaid that I ſpoke incoherently. I fell ſhortly into a profound ſleep, and a general perſpiration broke out all over my body; when I awaked, I found myſelf perfectly relieved from all unpleaſant feelings, and complained only of a ſenſe of wearineſs. Some inclination to vomit ſtill remained, but it gradually diſappeared; and in the courſe of the day I was enabled to begin the infuſion of bark, and took two pills given me by Dr. SCOT, containing ſix grains of calomel. I had no returns, and in two days was enabled again to take charge of my ward in the General Hoſpital. From all the ſymptoms, I am ſatisfied, that it was a real attack of the Remittent, and that the change brought on by the bath, procured a happy termination of the paroxyſm.

I have now finiſhed the remarks I had to make on the various means uſed to combat the Remittent of St. Domingo; it would appear on the whole, that blood-letting in the early part of the diſeaſe, is one of the beſt means we have yet adopted; whether by preparing the body for the action of other remedies,

dies, or in its own nature preventing dangerous consequences.

I shall add a few words more on the use of opium, which in a variety of modes has been employed in the cure of the Remittent. In Intermittents, I have seen the use of it, attended with the best effects, administered in the cold stage, in the manner of Dr. LIND. It certainly brought on the hot stage, and conducted it to a happy termination, with great comfort to the patient's feelings. And I have once or twice seen, the return of the paroxysm, entirely prevented by taking a large dose of laudanum. But I must, in the amplest manner, join my testimony to that of RUSH's, in saying, that I found the use of it in the early stage of the Remittent, attended with bad consequences, even, when the pain and restlessness of the patient called on humanity for any means of relief. The headach was always increased, the system in general rendered more irritable, the skin more dry and parched, and an evident debility followed its operation. But towards the close of the fever, where there are symptoms of remission, more freedom may be used, without any bad consequence. And it is a means of accele-

rating recovery, by procuring ſleep, and refreſhing and invigorating the ſyſtem. I ſhall now proceed to ſtate the treatment I purſued in the Remittent, before I left St. Domingo, and the grounds on which I planned my practice.

The Author's Treatment of the Remittent, after conſiderable Experience.

WHENEVER I was called to viſit a perſon attacked by the Remittent in the manner already deſcribed, if there was any inflammatory diſpoſition, or that the patient was a ſtranger lately arrived, I inſtantly bled him in proportion to his ſtrength and the urgency of the caſe; the quantity can only be aſcertained by the circumſtances then preſent, and cannot be regulated but at the patient's bed-ſide.—No directions can be given in words, that would apply to any number of caſes; as minute occurrences often guide the phyſician. I am however of opinion, that much depends on the evacuation being liberal at firſt; if the ſymptoms do not change, and the pulſe retains its vigour or increaſes in ſtrength, the evacuation may be repeated next day, but not ſo freely as on the firſt. After the blood-letting the patient was ordered into the warm bath,

and

and whilſt ſitting there, half elevated out of the tub, three buckets of cold water were daſhed over him; he was then taken out, and well rubbed with a rough dry cloth, and put to bed well covered; the room was choſen airy and open, and the bed placed in ſuch a manner, that no direct draught of air played upon it. As ſoon as he was put in bed, an injection was adminiſtered, and eight or ten grains of calomel joined with a ſcruple of James's powder, were formed into pills, and one ordered every half hour till their effects were produced; the patient was permitted to drink freely of lemonade, beef tea, rice or barley water, tamarind water, orangeade, or any light drink that was pleaſant to the taſte. If the fever did not give way to this treatment the bath and cold water, were repeated again and again, till ſome impreſſion was made in changing the given circumſtances of the body. —The pills too were continued, till the bowels were evacuated, and a diſpoſition to looſeneſs was brought on; and the ſkin releaſed from that hard cruſty feel, ſo unpleaſant to the touch. In general, where I could employ the baths, I directed them three times a day, and uniformly found that good effects reſulted. When caſual ſymptoms occurred, imme-

diate attention was paid to them. Of all the means uſed to ſuppreſs the exceſſive vomiting and remove the irritation, I think large bliſters early applied are the beſt; but I imagine we are in general too late in applying them, and permit the determinations to be formed before we attempt to counteract them, when they are too powerful to be removed, and have already produced their fatal tendency. I think in every caſe, where the ſlighteſt irritability appears, nay, where there is none, that a bliſter ſhould be applied over the ſtomach, ſo as to prevent the determination to that important organ; for what is the pain or inconvenience of a bliſter, compared with the ſecurity that the application may afford. I would recommend then, and I actually preſcribed a bliſter to the region of the ſtomach on the ſecond day; this does not interrupt any part of the treatment. When the vomiting has once commenced, the patient ſhould be directed to ſwallow as little as poſſible of any drink whatever, but to moiſten the fauces and mouth often, to remove that dryneſs which conduces ſo much to the ſenſation of thirſt. It is in vain to preſcribe the mildeſt liquids, the irritability is inconceivable, whatever touches the inner ſtomach is ſure to be rejected with violence;

violence; and every time the ſtomach is thrown into theſe convulſive motions, the diſeaſe is ſtrengthened, and the danger increaſed. Whenever the nauſea and pain appear, fomentations ſhould be applied, and continued frequently, after the bliſters are even placed, or riſen; very ſoft flannel may be employed for this purpoſe, wrung out of hot water, or decoction of chamomile, of which ſome entertain a high opinion. All medicines ſhould be laid aſide, during the height of the irritation; neither cordials or ſedatives will anſwer the purpoſe; I have never met with any medicine that would for any time remain in the ſtomach. But above all, we are to refrain from the uſe of purgatives or antimonials, medicines which produce their effects by exerting their firſt action on the fibres of the ſtomach itſelf, eſpecially calomel and jallap.—We are in this ſtage to truſt intirely to injections, and to repeat them often. Broth, and other nouriſhing liquids may be thrown into the body in this manner, and the fæces may be removed, by adding irritation to the common emollient injection. If the bliſters heal quickly, freſh ones muſt be applied, and the diſcharge ſupported by iſſue ointment. From this manner of uſing bliſters, I have ſeen the moſt beneficial effects reſult, nor have I uſed

any remedy with more ſatisfaction and ſucceſs in removing dangerous ſymptoms.—I do not remember a caſe, where bliſters failed in removing this moſt dangerous irritability of the ſtomach, where they were early employed and perſiſted in. I have alſo ſeen bliſters ſingularly uſeful in the latter ſtages of the Remittent, when the ſpirits flagged, when there was a diſpoſition to coma, and the pulſe was low and fluttering, with that inſenſibility ſo often preſent with ſuch ſymptoms. In theſe caſes I have ſucceſsfully applied bliſters to the neck and ſhoulders, to the ancles and inſide of the thighs, they were not large but made very ſtrong ſo as to act; and I have ſeen caſes where I could attribute recovery to them alone. One medicine I muſt mention, which I have uſed with good effect after the irritability of the ſtomach had ſomewhat abated; it was a ſolution of white vitriol in peppermint water, with the addition of a few drops of laudanum; I uſed the proportion of two ſcruples of the vitriol to ſix ounces of water and thirty drops of laudanum. Of this mixture I preſcribed a table-ſpoonful every half-hour, till the ſymptoms diſappeared. Dr. JACKSON uſed at times portions of burnt alum with good effect. Theſe muſt act by their aſtringent power, which is applied in a ſmall bulk

without diſtending the ſtomach. The veſſels in the inner coats, previouſly ſurcharged and dilated, are thus contracted and ſtrengthened, the diſtention which made them ſo irritable is diminiſhed, and they acquire ſome portion of their former tone and feeling. It is in this manner only, I can account for the good effects of aſtringents in this ſtate of the ſtomach.

In the progreſs of the Remittent, eſpecially when remarkable debility occurred, I ſtill perſiſted in the uſe of the cold water, and generally found that the ſtrength was repaired, the pulſe rendered more equable, and the recollection more diſtinct and more deciſive. During the recurrence of this debility, I uſed camphor joined with nitre, and ſometimes James's powder, as I judge with good effect, in opening the ſkin; and where there was any tendency to ſubſultus, opium was added in conſiderable doſes. If in ſpite of theſe means the pulſe ſtill continued to ſink, and the vital energies to diminiſh, I had recourſe to the warmeſt ſtimulants, ſuch as æther, brandy, cayenne pepper, brandy baths, &c. It is then, of importance to maintain and ſupport the living phænomena, to rouſe the dying arteries, and to diffuſe ſtimulus, from the grand

 centre

centre the ſtomach. However theory may criticiſe ſuch practice, experience will juſtify it, as ſometimes ſucceſsful, and ſucceſs is the beſt comment on any mode of treatment. When remiſſions were obtained, and the diſeaſe ſhowed a diſpoſition to yield, the infuſion of the bark and vitriolic acid were preſcribed, and continued during the tedious ſtage of convaleſcence, when the patient was apt to fall into a number of diſeaſes, ariſing from the previous derangement and debility of the ſyſtem.

It was in this general manner then I conducted the treatment of the Yellow Fever as it has been termed; varying my means, in many particulars as occaſion required. I might have perhaps furniſhed a number of caſes in detail; but my conſtant occupation did not permit me to take down theſe medical hiſtories at full length. I noted the general outlines, and progreſs, the remarkable occurrences, the general effects of various treatment; but this was all I could do. Occupied from morning to night in the hoſpital, or viſiting ſick officers, diſperſed over a large town, it was impoſſible to be very minute. Before I proceed to diſcuſs the views on which

I eſtabliſhed my practice, I ſhall mention one caution in the uſe of bliſters which may prevent much inconvenience to the patient; I mean the guarding the ſeat of them with the utmoſt vigilance from the flies. The moment the ſkin is removed, they croud upon it, and depoſit their eggs, which become in this neſt a race of maggots, and often form dangerous and deep ulcers, pouring out myriads of theſe diſguſting animals. The patient often feels excruciating pain from their motion, and their efforts to feed on the animal fibre. They cannot be baniſhed without much torture. They form ſinuſes, into which they retire, and elude the forceps or probe. They reſiſt mercury, ſpirits, and the ſtrong ſolution of corroſive ſublimate, in all which I have tried the duration of their lives, which in theſe elements they ſupported for hours. The ſucceſsful and deciſive remedy is the oil of turpentine, which never fails to kill and baniſh them, when it has proper acceſs to their habitations. This remedy was firſt recommended to me by my friend Dr. WRIGHT of St. Domingo. It frequently gives intenſe pain, and almoſt throws the patient into fits; ſo that care ought to be employed in the beginning to prevent the flies from alighting on the ſore.

I ſhall

I ſhall now ſtate the grounds on which my practice was founded.—In the firſt place I adopted no one particular remedy to which in all caſes I invariably applied, without the aſſiſtance of others. It is evident, that as circumſtances of diſeaſe vary in almoſt every individual, ſo muſt our means be varied alſo, if we wiſh to meet the diſeaſe and fairly combat it. On this principle the ſupporters of blood-letting, and the preſcribers of calomel are equally wrong. No invariable mode of treatment can be adopted with ſucceſs in any one diſeaſe. I accordingly adopted and blended all the ſyſtems of management which have been offered in the Remittent. I was certainly more ſucceſsful, after I adopted blood-letting than before, and in many caſes among the officers; where I was called early, had no reaſon to be diſſatisfied with my labour. In the General Hoſpital, I could not by any means boaſt the ſame ſucceſs; the caſes which came under our inſpection there, were of the worſt deſcription in themſelves, and we ſeldom ſaw them in the early ſtage. The ſurgeons of regiments ſeldom ordered their patients to the General Hoſpital, until the caſe became very dangerous; in ſuch circumſtances many recoveries could not be expected, and accordingly the mortality was very great.

great.—But to return; I before ſtated, in the beginning of this work, that the firſt effects of the cauſes of the Remittent, were to form determinations of blood to various parts of the body, but more eſpecially the internal organs: That theſe determinations conſiſted in a larger portion of the blood being directed to particular veſſels, diſtending and ſtretching them, producing an increaſed morbid ſenſibility, and all the ſymptoms of acute inflammation. That the cauſe of theſe phænomena, was a diminution of ſtrength, in ſome parts of the vaſcular ſyſtem, by which the balance of circulation was deſtroyed; and that the danger of the diſeaſe, conſiſted chiefly in the ſtrength of ſuch determination, and the importance of the organ to which it was directed. That theſe determinations actually happen may be inferred from the phænomena of the diſeaſe itſelf. The irritability of the ſtomach, the aſtoniſhing impatience it manifeſts in rejecting ſolids or fluids, the convulſive agonies into which it is thrown, the pain to the touch, are ſtrong proofs of this fact. But diſſections prove beyond all contradiction, that effects very ſimilar to thoſe of inflammation, actually take place; the inner coats of the ſtomach are often found ſeparated

from

from the reſt, and floating looſe with the ſecretions of that organ. The aſtoniſhing quantity of a ropy clear fluid often thrown up, when the patient has had no drink, proves clearly an increaſed ſecretion in the ſtomach, which could not happen, without an increaſed action in the veſſels, and a larger quantity of blood than the uſual proportion to that organ. That determination happens to the head, is indirectly proved, by the coma often preſent; by the fluſhing in the face, and the viſible action of the arteries about the neck and temples; and directly by diſſection, which ſhows actual derangement, and marks of fulneſs in the veſſels. But what is more to the point, in caſes, where the indirect proofs have occurred; great ſuffuſions of a clear fluid have been found in the brain. This clearly argues an increaſed action of theſe veſſels, and an unuſual fulneſs in conſequence. I know, it is difficult to draw preciſe and juſt concluſions from the ſtate of the brain after death; becauſe in the ſtruggles of dying, and the peculiar circumſtances of reſpiration, during theſe agonies, almoſt every one dies in a ſtate of apoplexy.—And hence, the veſſels of the brain appear overdiſtended on diſſection, though this diſtention might not exiſt till a few minutes before death;

but where the ſymptoms already ſtated have appeared in the head, and where intenſe pain has been preſent; and diſſection afterwards confirms, I think the concluſion may be fairly made, that there was a determination to the veſſels of the brain. The liver too is very frequently attacked by determination. In almoſt every diſſection, that I have either ſeen or heard of; the liver has been found ſomewhat enlarged and tumid, and the gall bladder commonly diſtended and full. In one inſtance which occurred, when I was at Cape Nicholas Mole, in a perſon under the care of my friend Dr. FELLOWS; the liver contained an amazing impoſthume full of pus. It had hollowed out, nearly half the hepatic ſubſtance; and the reſt of it was uncommonly large, and tumid. I had ſeen this man a few days before he died, he complained of ſome pain in that hypochondrium, and I ſuſpected that the liver was affected. Dr. FELLOWS, with a laudable induſtry opened and examined him; diſſection in a warm climate, is not the moſt agreeable manner of inquiry. It appears then, from unqueſtionable facts that determinations really happen, and that the greateſt danger ariſes from them. The danger of determination, would ſeem intimately connected with a certain

tain tone of the veſſels, or what has been called an inflammatory diatheſis, and this again to depend on the abſolute quantity and momentum of the circulating maſs. If this view be correct, and it is the only one in which circumſtances lead me, to ſee the diſeaſe, the propriety of an early and liberal blood-letting is at once eſtabliſhed.

Theſe are decided modes in which the proximate cauſe operates, and blood-letting appears to me the beſt and moſt likely means to avert danger; but when the bias towards determination is completely formed, it is then matter of great difficulty, to prevent its going on. When the morbid action is once begun in conſequence of determination, it is not eaſy by any means to reſtrain it; but to diminiſh the bulk, and conſequently the momentum of the circulating maſs, is the beſt means we can employ to prevent it's fatal conſequences. The veſſels muſt act vigorouſly and be in a ſtate of diſtention to produce the effects we obſerve in the ſtomach itſelf; the inner coats cannot be ſeparated without conſiderable violence, nor the organization of the veſſels and coats could not undergo ſuch complete derangement,

without great morbid action. But blood-letting diminishes distension, tone, and vigour in the vessels; and therefore seems best calculated to prevent danger. And it is of the utmost importance, that the morbid action in the stomach, head, or liver, should not at all commence; as then, our blood-letting and other means may be too late. The effect of a stimulus, or rather the action it produces, may, and does in certain circumstances, continue, after the stimulus itself is removed. Hence it is of importance, to prevent the commencement of morbid action.

A fact occurs, in the administration of purgatives, which illustrates this reasoning; it often happens in the exhibition of salts, that they are instantly, rejected from the stomach; but the purgative effects are produced notwithstanding. That is; the stimulus imparted by the salts to the fibres of the stomach, had begun a certain action there, which had gone forward and continued after the salts themselves had been thrown up. It is the same in determinations, if once they have been formed, and that a peculiar action has been produced in the vessels; though the momentum and bulk, of the circulating mass, may be afterwards

 diminished;

diminiſhed, and the danger of the determination perhaps leſſened, yet ſome of its peculiar effects will go forward; and be at times hazardous. So that prevention, would ſeem a more ſecure ground of practice; and blood-letting appears to me, to be the chief and beſt means of effecting it. I truſt it has appeared from the above reaſoning, that it is eſſential to perform blood-letting very early; and as liberally as the circumſtances of the patient will admit. It will appear alſo, that if the action of the veſſels is not diminiſhed, after the firſt blood-letting, that it will be neceſſary to repeat it; till that effect is really produced. Much of the future events of the diſeaſe muſt depend on an early blood-letting.— It is to be obſerved, that this doctrine, more eſpecially applies to the caſe of ſtrangers, newly arrived; and poſſeſſing like the Engliſh, the full, irritable, plethoric habit, on which the Remittent eſtabliſhes its conqueſts. It is in ſuch habits, that determinations, are apt to be produced. But they may occur in people, who have reſided for a long time in the climate, whoſe vigour and ſtrength have been diminiſhed by perſpiration, and the relaxation, heat always induces. In theſe caſes,

blood-

blood-letting cannot be employed with the ſame freedom.

I omitted in my plan of treatment to mention Friction on the ſkin.—Whenever we are able to induce action in the veſſels, the ſupply of blood to them is increaſed, or a determination to that particular ſet of veſſels takes place. In this view Friction was recommended, which by having a chance of exciting into action the veſſels of the ſkin, would divert the force of the circulation to the ſurface of the body. For it has been obſerved, that the determinations are apt to happen towards the internal organs. Friction therefore may divert the circulation to the ſurface, the ſpaſm, which commonly takes place, may be thus removed, and the determinations to important organs prevented. The James's powder was preſcribed alſo in this view, as I have often ſeen it operate on the ſkin; whilſt the calomel cleared the bowels and removed fæculent matter, which might prove highly prejudicial to the ſyſtem.

Both the calomel and James's powders are powerful alteratives, and may conduce to change the given ſtate of the body; though

I am not clear, that ſmaller doſes of calomel, would not ſucceed better, than large ones, as theſe become purgative. And purgatives certainly muſt in ſome degree favour determinations. The action of the veſſels in the inteſtines once excited, ſolicits a greater flow of blood towards them; and purgatives operate by producing this action. Whether they compenſate for this by removing, what would prove highly ſtimulant and dangerous, in the inteſtines, may be doubtful, as frequent injections might effect this end. Purgatives appear to me a dubious remedy; they certainly irritate, although they produce evacuation, yet in this way, they may contribute to diminiſh the bulk and momentum of the circulating maſs. In Dr. Rush's practice conſiderable ſtreſs is laid on their carrying the calomel briſkly through, and he ſeems to think that it contributed to the good effects of it, to be thus hurried through the inteſtines. To his authority, I pay great deference; but I cannot clearly conceive how this method could contribute to the good effects of calomel. I have already, pretty freely expreſſed my opinion of its uſe, as an alterative.

I come

I come now to ſpeak of the warm and cold bath, which I ſo freely employed; and here I muſt recur ſhortly to the doctrine of proximate cauſes, and our general knowledge of fever. It has been already ſaid, that we do not know, preciſely and definitely, the nature of proximate cauſes, and therefore, that practice by indication; is often mere amuſement, a fiction, by which we deceive ourſelves and our patient. Our knowledge of fever, in its intimate and neceſſary mode of exiſting; is not much more extenſive.—Theories have riſen after theories, and again ſunk into oblivion; they are peruſed by the curious, as monuments of the difficulty of the ſubject; and the defect of knowledge. In theſe circumſtances, the phyſician, untutored by any rational inſtructor, muſt ſearch out principles for himſelf; and try ſome new path, by which he may prove more ſucceſsful in his reſearches. On theſe grounds, as I could not preſcribe by definite indication, in the Remittent, when the various means already enumerated, failed of ſucceſs; I attempted to change at once the whole given, or exiſting circumſtances of the ſyſtem; ſo as to change the morbid phænomena; and by thus introducing a new order of things,

 have

have a better chance of curing the diſeaſe. It is evident if the whole ſtate of the body, undergoes a revolution; that the morbid cauſe, cannot in a new condition of the body, produce the ſame phænomena as before. But it may be aſked, whether I can aſcertain, that the new order of circumſtances will be leſs dangerous, than the former which have been baniſhed by my practice? To this I reply, that no new circumſtances or change, can be more dangerous, than the ſtate, we attempt to alter; and that the revolution in the ſyſtem affords ſome chance, and therefore, that there is a preference due to it.—In caſes, where few eſcape, and where certain ſymptoms form preſages of death; it is ſurely the duty of the phyſician to vary his means, and not obſtinately perſiſt in any one method, which has not been ſucceſsful. Inſtead of adhering to blood-letting or calomel, to bark, injections, diluents, or any one method, I took advantage of them all, and combined or ſeparated them, as occaſion might require. From an attentive view of the diſeaſe and its ſymptoms, I drew ſome general concluſions, which had an influence on my practice; but I was often placed in a ſituation, to abandon theſe concluſions, and at-

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tempt innovation. As the moſt powerful means of effecting a change in the given circumſtances, I uſed the cold bath. And I premiſed the warm, in order to create a high degree of ſenſibility, becauſe, without ſenſibility, we have no baſis to act on; nor can any change be actually produced. I had the ſatisfaction to ſee many caſes, in which I had reaſon to congratulate myſelf on adopting and purſuing theſe opinions, and if even our ſucceſs is confined to a few inſtances, there will be good grounds ſtill, for innovation.

I have now pretty fully explained my view of the diſeaſe, and the grounds of my practice; and I am not without hope, if it ever is my lot to be again placed, where it rages, that I ſhould be more ſucceſsful, than heretofore. It requires a long experience to form accurate concluſions. I have now only to obſerve, that, I confined the uſe of the bark to the convaleſcent period, when it ſeemed to prevent acceſſions, and to increaſe the ſtrength and appetite. A long train of diſeaſes often followed the Remittent, all intimately blended with debility. Obſtinate incurable diarrhœas frequently appeared, which reſiſted any thing I could ever

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try. Malignant eruptions, ending often in foul ulcers, were ſometimes the conſequence of the fever; œdematous ſwellings, loſs of appetite, great languor and debility, often remained for a long time, in ſpite of every remedy. It was always my opinion, that ſtrength could not be recruited, in ſituations, productive of miaſmata; and therefore, I uniformly recommended, as ſoon as the patient could bear it, a change of ſituation and climate. The ſtate of our garriſons, did not ſometimes admit of the abſence of officers, who ought to have had the benefits of a change.—Many languiſhed away life, in this unfortunate impriſonment.

It has been remarked, by many practitioners, that ulcers in the Weſt Indies are much more obſtinate than in Europe; and I believe there has been ground for the obſervation. But I muſt confeſs, that I have been ſurpriſed, by the ſucceſs I have ſeen, both in wounds and ulcers at St. Domingo. Operations have been performed with more than European ſucceſs, by Meſſrs. WARREN, MONTAGUE, and BUCKLE; and I have ſeen ulcers of the moſt malignant aſpect cured, under the direction of the ſame gentlemen.

Having

Having now finiſhed, what I had to ſay, on the Remittent, and its treatment, I ſhall offer a few words more, on the claſs to which I have referred it. Dr. JACKSON, with whom it is not ſafe to differ, and for whoſe authority I have the greateſt reſpect, conſiders the Yellow Fever as a diſtinct diſeaſe, entirely different, from the Endemic Remittent; and for this opinion he offers the following reaſons: " In our enquiries into the hiſtory of the Yellow Fever (ſays Dr. JACKSON) ſome circumſtances preſent themſelves to our obſervation, which are not a little curious. It has never been obſerved, that a negroe, immediately from the coaſt of Africa, has been attacked with this diſeaſe; neither have Creoles, who have lived conſtantly in their native country, ever been known to ſuffer from it; yet Creoles or Africans, who have travelled to Europe, or the higher latitudes of America, are not by any means exempted from it; when they return to the iſlands of the Weſt Indies. Europeans, males particularly, ſuffer from it, ſoon after their arrival in tropical climates; yet after the natives of Europe, have remained for a year or two in thoſe hot climates, eſpecially after they have experienced the ordinary endemic

demic of the country; the appearance of the Yellow Fever, is obſerved to be only a rare occurrence; but beſides, that this diſeaſe ſeldom diſcovers itſelf, among thoſe people, who have lived any length of time in a tropical country; it has likewiſe ſcarcely ever been known to attack the ſame perſon twice, unleſs accidentally after his return from a colder region. The Remitting Fever on the contrary, does not ceaſe to attack ſuch as have reſided, the greateſt part of their life, in thoſe climates, or who have lived, after the moſt regular and abſtemious manner; a fact, which ſeems to prove, that there actually exiſts ſome eſſential difference, between the two diſeaſes, or which ſhows at leaſt that the revolution of a ſeaſon or two deſtroys in the European conſtitution, a certain aptitude or diſpoſition for the one diſeaſe, which it ſtill retains for the other."—The above facts, which are ſtrictly true, do not by any means, weaken my concluſions, or conſtitute any real difference in the diſeaſe; on the contrary, they ſeem to ſtrengthen my doctrine. . Africans and Creoles, live chiefly on vegetables; they do not poſſeſs that conſtitution or habit on which I allege the Remittent eſtabliſhes its conqueſts. They have not the inflam-

matory

matory plethoric fulneſs on which the ſeverity and acceſſion of the fever ſeem to depend; but when they travel to Europe, or the higher latitudes of America, they do acquire this conſtitution, by a change in the manner of their living; by doing what Europeans and Americans do; in ſhort, by living in the ſame manner. They are then, on their return from Europe, liable to the fever; and ſometimes to its worſt form. But ſtill the diſeaſe is leſs violent in general, among the Negroes and Creoles, than among Europeans or Americans. Becauſe in their habits, the inflammatory diatheſis, does not exiſt in the ſame degree. After the natives of Europe have remained, as Dr. JACKSON ſtates, one or two years, in thoſe hot climates; eſpecially after undergoing the uſual endemic; the Yellow Fever is obſerved to be a rare occurrence. That is, after the conſtitution, by a reſidence of one or two years, and by undergoing a mild diſeaſe, loſes the inflammatory diſpoſition; then, any ſucceeding attack does not proceed ſo far, as to induce the yellowneſs, which I have noted, as marking a dangerous gradation, and the worſt ſtage of the Remittent. All the ſecurity, which

which people derive from a long refidence in a tropical country, arifes from the gradual diminution of the inflammatory habit, which chiefly feems to produce the worft ftages and fymptoms of the Remittent. The fever, for the fame reafons, feldom returns twice; but this is only a very general obfervation, for where-ever the plethoric ftate is produced in thofe, who have refided for years in thefe countries; the fever is apt to return with fatal violence. Of this I have feen many inftances. Captain L——, of the 82d regiment, died of the fecond attack at the diftance of twelve months from the firft, from which he had happily recovered. Captain R—— died after he had refided twenty months at St. Domingo. Refidence only improves the chance of exiftence by diminifhing the inflammatory diathefis. "The Remitting fever on the contrary, (fays Dr. JACKSON) does not ceafe to attack thofe who have refided for years in the climate, and lived in the moft abftemious manner; and hence, there muft be a difference between the Endemic and Yellow Fever." Now all this reafoning amounts fimply to this, that though the Remittent attacks thofe, who may have refided for

for ſome time in a tropical country; yet it does not commonly proceed to that violent ultimate ſtage of danger, the yellowneſs. Becauſe the inflammatory diatheſis has been deſtroyed by the relaxing powers of heat, and perſpiration. But they are not wholly exempted, they are only ſubjected to a milder form of diſeaſe, from the antecedent circumſtances, of the conſtitution. Dr. JACKSON has ſtated the facts with his uſual correctneſs; but we differ in our concluſions; to his candour, I moſt willingly ſubmit my inferences.

With reſpect to the variety of forms into which the Remittent is divided, I cannot do better than uſe the words of Dr. JACKSON. He has deſcribed in the following quotation all I have ever ſeen, viz. "A ſpecies of "diſeaſe, in which ſigns of putrefaction, are "evident at a very early ſtage; which is generally rapid in its courſe, and which uſually terminates in black vomiting. Yellowneſs ſeldom or never fails to make its "appearance, in the preſent inſtance; and "perhaps it is only this form, which ſtrictly "ſpeaking can be called the Yellow Fever.

 "Secondly,

"Secondly, into a form which either has no "remiſſions, or remiſſions which are ſcarcely "perceptible; in which ſigns of nervous af- "fections are more obvious, than ſymptoms of "putreſcency, and in which yellowneſs and "black vomiting are rare occurrences. Into "another form in which regular paroxyſms "and remiſſions cannot be traced; but in "which there are marks of violent irritation, "and appearances, of inflammatory diatheſis "in the earlier ſtage, which give way after "a ſhort continuance to ſigns of debi- "lity and putreſcency; which yellowneſs "frequently ſucceeds, or even ſometimes the "ſo much dreaded vomiting of matter of a "dark colour. The diſeaſe which I have "divided in the above manner, in three diſ- "ſtinct forms, appears to be in reality one "and the ſame. The difference of the ſymp- "toms probably ariſes, from very trivial or "very accidental cauſes; it is a matter of "great difficulty to diſcriminate thoſe ſigns, "which are eſſential and neceſſary to its exiſt- "ence. It is in ſome degree peculiar to "ſtrangers from colder regions, ſoon after "their arrival in the Weſt Indies, and may "generally be diſtinguiſhed from the remit-

" ting endemic of the county, not only by the
" obſcureneſs, or total want of paroxyſms and
" remiſſions, but likewiſe by a certain expreſ-
" ſion of the eye and countenance, with ſome-
" thing unuſually diſagreeable, in the feelings
" of which words convey only an imperfect
" idea."

CHAPTER III.

SECT. I.

REMITTENT OF ST. DOMINGO.

Means of Prevention—Changes in the Syſtem from Heat—Preparative Courſe for a Hot Climate.

HAVING finiſhed, all I had to ſay, on the Remittent of St. Domingo, I proceed to a very important ſubject, the means of prevention. This will neceſſarily include ſome preparation for the climate, previous to landing; with the moſt likely means of avoiding diſeaſe, after the troops diſembark; to which ſome Obſervations will be added on Diet, Situation, and Exerciſe.

Numerous directions have already been given in various books for the conduct of troops

troops on board ſhip; the beſt and moſt conciſe, that I have met with are contained in a pamphlet written by Mr. STUART, ſurgeon in the Eaſt India Company's ſervice, and addreſſed to the Court of Directors. I ſhall not therefore enter into any minute details on this ſubject; but obſerve, that if my remark be correct, that the inflammatory diatheſis, in any conſtitution, creates danger, our preparation at ſea, muſt be directed to diminiſh this tendency. The great benefits of cleanlineſs, good air, and dryneſs, are known to every one who has paſſed any time on board ſhip. The effects of paſſing from a cold climate into a warm one, are ſometimes very ſuddenly felt. Head-ach, nauſea, an increaſe in the celerity and ſtrength of the pulſe, a diſcharge of bilious matter; argue ſome derangement in the ſtate of the ſolids and fluids. The general effects of heat are produced in the human body. The ſolids and fluids ſuffer expanſion, but not apparently in the ſame proportion; the fluids ſeem to be expanded before the rigid fibres of the ſolids ſufficiently yield; this may be inferred from the hæmorrhage, which often happens from the noſe, from the feveriſhneſs and tenſion of the pulſe, from the ſcanty perſpiration, which occurs on our entry

into warm climates. Theſe would ſeem to argue, that the fluids ſuffering a ſudden expanſion, burſt the barrier of the blood veſſels, before they had time to accommodate themſelves, to the new bulk of their contents. Heat too, renders all the veſſels more irritable, and appears to communicate a ſtimulus to the whole ſyſtem. Hence the ſecretions in general are increaſed, except ſuch as mutually ſupply the place of each other; as the perſpiration, and diſcharge of urine are known to do. Perſpiration relieves the ſyſtem in two ways, firſt by diminiſhing the abſolute bulk of the maſs of fluids, and thus accommodating them to the ſolids; and ſecondly, by conducting off the exceſs of poſitive heat, in the proceſs of evaporation. Theſe objects are of the utmoſt conſequence in the animal œconomy. Our great aim then muſt be to put the body in a condition, on our approach to a warm climate, not to ſuffer from the unavoidable expanſion and change that muſt go forward. This is to be effected by diminiſhing the fluids, and leſſening the irritability of the ſyſtem. On our getting into the warm latitudes, before the heat becomes intenſe; we muſt begin our preventive means. All thoſe who are vigorous, plethoric, or irritable in their conſtitu-

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tions, ought to be bled, in proportion to their ſtrength; it is impoſſible to lay down preciſe rules. For this purpoſe, the tranſports, or ſhips of war, ought to lay to; that the motion of the ſhip might not create preſent or future inconvenience to thoſe who are bled. After this general blood-letting, a doſe of ſalts ought to be adminiſtered to all thoſe, in whom the operation was performed. They ſhould be afterwards, every other day made to plunge in the ſalt water, for which purpoſe, large tubs might be placed on the forecaſtle. This would cleanſe the ſkin, and preſerve the proper tone of the veſſels from undergoing too ſudden a relaxation. The troops at the ſame time ought to be put on a lower diet. The quantity of ſalt proviſion muſt be leſſened, and if they have been hitherto, accuſtomed to ardent ſpirits, they ought now to leave them entirely off; and to ſubſtitute the leſs pernicious beverage of ſpruce beer, porter, or wine and water. But theſe drinks ought to be of the firſt quality, and approved of, by a mixed board of military and medical officers. Unfortunately the liberal ſupplies of government to the army, fall too frequently a prey to commiſſaries and contractors; whilſt the officers and ſoldiers, are robbed of their juſt al-

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lowances. Thoſe who can live on a more liberal ſcale, and can command vegetables and freſh animal food, ought to diminiſh the quantity of the latter, as well as their former quantity of wine. For though the waſte by perſpiration requires, that the circulating maſs be recruited, yet it is not neceſſary, that the whole of this ſupply ſhould be in wine. The great baſis of all our drinks ſhould be water, blended with ſuch portions of other nouriſhing fluids, as will not permit it to weaken too much, which perhaps it might do, were it not for this addition.

Before the troops are landed the ſame means already recommended ought again to be repeated; ſo that the inflammatory diatheſis would in a great meaſure be ſubdued. Ardent ſpirits though they create a temporary ſtrength and excitement, yet diſſipate the ſtrength more than any other means. The languor and debility of a debauch laſt much longer than the joyous moments which produced them. In this manner by frequent repetitions, the animal powers are deſtroyed beyond recovery; and many men, formed to delight ſociety, become humiliating monuments of debauchery. The ſtimuli of ardent ſpirits,

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wine, and animal food, exhauſt the ſyſtem more than any others, and waſte its excitability more completely. Men capable of great exertions have almoſt always, been ſober abſtemious men. Walking STEWART, ſeldom taſted animal food, or indulged in wine, yet he walked over an aſtoniſhing extent of country, without hurting his conſtitution; and with more perſeverance than is commonly found. Dr. JACKSON, who follows the ſame plan, and has always led an abſtemious life, gives, in his own perſon, remarkable proofs of vigour, under this regimen; and though now paſt forty years of age, is more active, and more capable of undergoing fatigue, than moſt of our young men of twenty. At Port-au-Prince he ſeldom mounted a horſe, and yet he viſited every barrack, every regimental hoſpital, and every ward in the general hoſpital, ſometimes twice a day. And he did not ſeem fatigued in the evening. Independent of theſe direct inſtances of the benefits of a moderate abſtemious life, we remark that the natives of warm climates in general, unleſs corrupted by Europeans, adopt this plan of abſtinence. Among moſt of the Eaſtern nations, this ſobriety of life is enforced by the principles of their religion. Their wiſe

legiſlators, enſured their obedience by ſacred ties; by which they performed duties eſſential to their exiſtence and happineſs; with more pleaſure and ſecurity. The Mahometans, though they do not abſolutely decline the pleaſures of wine, reſerve the full enjoyment of it to their celeſtial manſions. The Gentoos, find a ſufficient reward on earth, and practiſe moderation without a bribe. Temperance, like other virtues, is its own reward. But whilſt I recommend temperance and moderation, I do not mean to inſinuate, that we ſhould wholly abſtain from wine or animal food; on this ſubject I ſhall be more explicit in its place. It requires prudence and care to relinquiſh habits to which we have been long enured. It muſt be done by ſlow and cautious degrees, or we run a great riſque in the attempt to improve. It would be raſh to reduce a man, accuſtomed to drink a bottle of wine after dinner, to two glaſſes; ſuch a reduction might be really dangerous. Nature, and the example of the natives of warm climates, would ſeem to point out, that the ſame diet which is neceſſary in cold countries, is not ſuitable to tropical climates.

Nature exhibits, in the tropical climate, the human ſyſtem, relaxed and debilitated, and without the ſame powers and vigour which mark the robuſt inhabitant of Europe. The example of the natives, founded on this difference, teaches a mode of living proportioned to the vigour of their animal powers. Making this the rule of our diet, it would be certainly proper to alter our manner of living, on getting into the warmer latitudes. If it be the effect of heat to expand and relax, and by ſuch change to debilitate the animal fibre; it muſt affect every part of the ſyſtem, and diminiſh the vigour of every organ, which compoſes the living body. Among the other organs, the ſtomach muſt feel this general influence; and in fact we find its powers diminiſhed; the appetite for animal food is languid, and when the ſtomach happens to be full of any thing that requires energy to ſubdue it, there is a remarkable oppreſſion induced; and other ſymptoms of dyſpepſia. The nature of the food muſt be proportioned to the vigour of the ſtomach. If this is a true axiom, we muſt conclude, that as the ſtomach becomes weakened and relaxed, in common with other organs of the body; we ought to ſupply it only with ſuch nouriſh-

ment as it can readily manage and ſubdue. Animal food in any large proportion, requires conſiderable vigour in the ſtomach to digeſt and ſubdue it. The proportion of it which enters diet in Europe, ſhould therefore be diminiſhed in a tropical climate; and a preference given to vegetables. Light ſoups ſeem to me well calculated for the powers the ſtomach retains; they do not require any great vigour to ſubdue them, and appear with little change to be fit for immediate aſſimilation. The French have adopted this mode of living, and are more healthy than we are. They are remarkable for their light ſoups and wines, and the large portions of bread, and vegetables which compoſe their diet; all their plans and methods of life are directly calculated to diminiſh the inflammatory conſtitution on which the Remittent makes its moſt dangerous attack. But, independent of the eaſe with which digeſtion is performed, and the proportion eſtabliſhed by this method, between the powers of the ſtomach and the reſiſtance of the food; it poſſeſſes another great advantage; that it gradually lowers the habit to a ſecure and leſs hazardous ſtandard. For ſhould the Remittent make its attack, it finds the habit in a ſituation to make a proper reſiſtance.

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These remarks apply to the West Indies in general, but more especially where Remittents prevail.

—It belongs to this section to remark, that much depends on the period of arrival in the West Indies; but this is difficult to arrange, with any certainty, the attempt may be made, but the elements controul our arrangements. When however Government can attend to a certain season, the troops for West India service should be embarked in September. They will then, in all probability arrive in November when the healthy period commences, and they have before them four months of a milder temperature, during which they can be seasoned without danger. This is the only part of the year for activity or exertion; it is the only time in which European soldiers can be useful. They may be exercised with safety and trained to fatigue. It would therefore in every view be a desireable period for embarking West India troops. This attempt was made in 1795 from this country, but the event proved highly disastrous and dangerous. However such a boisterous season is not a common occurrence, and we may still hope for better success.

SECT. II.

Method of treating Troops after landing—Situations to be chosen for their Residence—Manner of Exercise recommended—Different Posts examined.

HAVING made these general remarks on Diet, which, so far as the rules can be complied with, are applicable at sea; I shall now suppose the troops disembarked. The remarks which will be offered on this subject, will apply in general to the West Indies; I shall afterwards point out more particularly, what applies to the island of St. Domingo.

When troops are landed, the first object of the officers attention, should be to secure for them dry and comfortable quarters; and to prevent as much as possible, with extraordinary strictness, their having intercourse with the troops already in garrison. The effects of this intercourse are, commonly, riot, intemperance, and drunkenness. Instead of allowing them to run about the streets, and fatigue themselves with novelty; they ought to be restrained from any unnecessary exercise, with the

the moſt vigilant caution. The moſt poſitive and ſtrict orders on this head, muſt be iſſued, and enforced. During this period of confinement, which ought to laſt two or three days, they ſhould all have a doſe of cooling phyſic, ſuch as ſalts and manna; ſoluble tartar and jalap; with a variety of other preparations ſuitable to the purpoſe. They ought to be fed on ſoups, with very little animal food. All ardent ſpirits to be abſolutely forbidden. After undergoing this preparatory regimen, they may be taken out to exerciſe in the morning, with ſome ſafety. The troops then, on the following day ought to be marched, to a known healthy ſituation, well ſheltered from unfriendly winds, lofty, and dry. This removal never ſhould be neglected; for it is proved, by accurate obſervation, that the miaſmata, which produce the Remittent, generally require ten or fifteen days to produce their effect; or more accurately ſpeaking require an expoſure to them, of that duration, before the body is ſaturated and yields to their influence. This points out an abſolute neceſſity for changing the ſituation of the troops, as ſoon as poſſible, after landing, and refreſhing themſelves. For all the places or towns in the Weſt Indies, where troops are commonly

commonly landed, have been built for the purposes of commerce, with very little consideration of their healthfulness. They are in general on low grounds, and these grounds being situated at the foot of high mountains, are somewhat marshy, and therefore not fit situations for troops. To this Port Royal in Jamaica forms an exception, being a sandy dry soil, and reckoned in that island very healthy; though not in the same degree as Stoney Hill barracks, an elevated, well sheltered, and dry situation.

When the troops are thus removed, it is probable, that they will not suffer, in any great degree, from the Endemic of the country. For allowing, that the miasmata act upon them, the moment they land, it is not improbable, as they require a certain length of exposure, to produce their effect, that the troops may escape after three days delay. But granting that a certain portion of them is admitted; the change into another climate, with a purer air, may prevent the ill effects which might otherwise result. The miasmata do not seem to operate like the small-pox; and from the smallest conceivable particle, produce their effects, as decidedly, as if

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a great quantity was employed. For the violence of Remittents, which we ſuppoſe, ariſe from miaſmata; ſeems to depend, on the quantity of them, applied to the body, where the attack takes place. Thus, at Port-au-Prince, where, there are large marſhes, the fever attacks ſtrangers much ſooner, and proceeds with more violence, than at Jeremie; where there is not the ſame nurſery for miaſmata as at Port-au-Prince. And at Bizoton, which riſes from the middle of a marſh, the Remittent attacks after a ſhorter reſidence, than at Port-au-Prince; becauſe, there are larger portions of miaſmata produced and applied to the ſyſtem. It is therefore probable that a certain quantity of miaſmata is neceſſary to produce the Remittent, and a certain length of expoſure requiſite to ſaturate the body. Theſe are ſufficient reaſons, for removing new-landed troops, to well known healthy ſituations. When they are removed; their diet ſhould be as much as poſſible made up with wholeſome vegetables; and great care taken, that no exceſs be committed with fruits and acids, which bring on troubleſome diarrhœa and dangerous cholic. Spirits ought not to be allowed; but ſpruce beer, or what is perhaps preferable, good porter may be given

given without hazard. Each ſoldier might conſume three pints a day; with advantage. If ſpirits are ever granted, water ſhould be added, to dilute them; perhaps half a wine glaſs of good brandy undiluted, might be allowed after dinner. Soldiers cannot believe their exiſtence ſecure without ardent ſpirits. And the officer may find it neceſſary ſometimes to concede ſomething even to their caprice.

I now ſuppoſe the troops in healthy, well ſituated cantonments, where they are to be trained for the ſervice of a hot climate, with all the ſecurity againſt the invaſion of the Remittent, that they can well poſſeſs. If they are in the neighbourhood of running water, or any convenient ſituation for bathing, I would ſtrongly recommend the cold bath, every morning, or every other morning. Unleſs the ſurgeon of the corps, points out unfit ſubjects for this healthy exerciſe, they ſhould be all ordered to bathe. An officer and the ſurgeon ought to ſuperintend this operation, that no riot or play may take place, which might keep them too long naked, or in the water. When they have plunged and waſhed themſelves, they are to be rubbed dry with a coarſe towel, with which each of them

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ought to be furnifhed; and then retire to their barracks with a brifk pace. They will feel themfelves light, invigorated, and cheerful. They refift in this manner, the relaxing effects of heat, they acquire ftrength without the inflammatory habit, and they become fit for fervice, without fearing difeafe.— This, as THOMPSON has expreffed it, is the pureft exercife of health; the kind refrefher of the fummer heats. And the fame poet adds, 'that the Roman arms, which fubdued the world, firft learned to fubdue the wave.' At the mefs of foldiers an officer ought always to be prefent, to regulate their conduct, and fee, that no impropriety is committed. This is particularly neceffary in the Weft Indies, where all the caution and vigilance employed is hardly fufficient, to prevent the men from getting a poifonous kind of rum, which deftroys numbers. I faw at St. Domingo a ftriking example of the benefit of this attention, in the royal, or firft regiment. Colonel Green, with the moft laudable and indefatigable zeal, was never abfent from the mefs of his foldiers; he regulated, ordered, and conducted every thing. The effects of this management were aftonifhing; the royal were the moft orderly, the neateft, and beft looking

men in the garrison; their deportment and appearance distinguished them at a distance; and other regiments looked up to them as objects of imitation. This sort of attention in officers, greatly improves the military ardour of soldiers, they feel their own importance, they are sensible of the kindness shewn them by their superiors; and they will not disgrace their friendship. At all events this vigilance must prevent riot and drinking, or the smuggling of rum into the mess; for which the most ingenious stratagems are contrived.

After regulating situation and diet, the next thing of importance, is military exercise; which is to complete the soldier for the purposes of his profession. It has been a general practice among officers, and from the best motives, to prevent the men as much as possible, from running about in the sun, or being even exposed to it for any time. This restriction is certainly very proper for the first few days after their arrival, but no longer. The soldiers who arrive in the West Indies are destined to serve in a hot country. They must, as service may require it, be exposed to the action of the sun for many hours; and often for a whole day;

day; is it not abſurd then, not to initiate theſe men into a gradual tolerance of what at ſome period they muſt undergo? It is not from a dark chamber, we would bring a perſon, to fit him, to bear the ſplendour of light, without hurting his eye. Nor would we train, in a heated apartment, a ſoldier for the cold region of Nova Zembla. Equally improper, is the method of chaſing troops to their barracks, whenever they appear in the ſun. The conſequence is, that troops thus educated; in the cool ſhade of their barracks, are rendered unfit for any ſervice; in this retreat they languiſh and ſleep their time away, they acquire indolent habits, they become relaxed; and for want of better amuſement get drunk. When the ſervice requires them to quit the ſhade, and march into the field; they are incapable of fatigue, the firſt beam of the ſun injures them; like tender plants they ſhrink from the breeze, ſicken and die. Nor is this ſurpriſing; it is to them, a ſudden change, they plunge at once into ſevere exertion; without being gradually inured or trained to it; and they ſuffer accordingly. It is aſtoniſhing that this prejudice ſhould prevail, and be even encouraged by medical men, as I have frequently ſeen. If indeed ſoldiers could fight,

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with umbrellas over them, or command an eclipſe, whilſt they were in the field; the preſent method of training them, would be proper and uſeful. But as effeminacy has not yet corrupted, or miracles aſſiſted our armies, we muſt recur to methods founded in common ſenſe, and common reaſon. What is it, that gives the ſuperiority to black troops over ours in a warm climate? Is it not the capability of enduring the heat of the ſun without danger?—and ought it not to be our aim gradually to bring our own troops to their level? Nothing will do this but education; a gradual habit, which at laſt ſteels the conſtitution, and fits it for any exigency. I have ſeen at Port-au-Prince, many men drop down on ſhort excurſions, affected by the heat. If they had been gradually inured, this would not happen. I brought myſelf to bear the ſun's utmoſt heat without any diſagreeable ſenſation. My profeſſion required, that I ſhould be able to go out at every time of the day in which I might be called on; I never uſed an umbrella, and I rode all day, wherever my aſſiſtance was required without any inconvenience. But I acquired this habit gradually. Dr. Jackson acquired the ſame habits, and walked daily in the ſun, without ſuffering

ſuffering any injury.—With reſpect to troops, it is neceſſary to form this habit of enduring the ſun very gradually. Let them begin to exerciſe at five o'clock in the morning; and continue this practice for two or three days, then come on, to half after five, to ſix, ſeven, or eight o'clock, prolonging their ſtay in the field each day; and making the hour progreſſive. After a habit of performing their exerciſe at eight o'clock, let them be gradually brought on to twelve in the forenoon, the warmeſt period of the day; and at firſt detained for ſhort intervals, which may afterwards be increaſed to any time. Troops will thus become highly uſeful; and in time be equally fit with the natives of the country to undergo any fatigue or ſervice. I appeal to common ſenſe, on this queſtion, to the experience of every one who has attentively viewed troops on any expedition in a warm climate. It muſt be evident, that it is proper to train them by degrees, to form and eſtabliſh a habit of bearing heat, to which the nature of the ſervice, muſt unavoidably expoſe them, ſome time or other.

When at Madraſs, in India, I had an opportunity of obſerving, that the troops in that

country were generally exercifed, at an early hour in the morning without any variation; and that they were fent back to their barracks with a fedulous care, to guard them from the fun. I underftood at the fame time, from a number of officers; that on fervice, many of thefe troops fuffered from the fun. Having had an opportunity of mentioning this fubject to the late Sir ARCHIBALD CAMPBELL, then governor of that fettlement; he was ftruck with fome obfervations which arofe in our converfation; and that excellent officer adopted the plan of progreffive exercife, from an early to a more advanced hour of the day. At firft, troops will not bear a long period in the heat of the fun, but by degrees, they may be fo inured, as to undergo long marches, without any inconvenience. This is a fubject of great importance; as a very different fyftem is at prefent carried on in the Weft Indies; a fyftem which unfits the foldier for exertion, and expofes him to new perils; againft which we might eafily guard, by a little attention.

I am fo convinced, on the propriety of bringing up foldiers, to a gradual endurance of heat, that I am aftonifhed, it fhould not have been long

ſince adopted; but prejudices do not eaſily give way; and the ſun has from immemorial time been reckoned unfriendly to the European conſtitution. The reſtriction is highly proper at firſt. It is a curious fact, proved almoſt by every one, that thoſe who arrive from England in a warm climate, or from the latter in England; endure the heat or cold better, for the firſt ſeaſon, than during any ſubſequent one. This is a dangerous prepoſſeſſion, in either caſe. It is difficult to explain, how the ſenſation ariſes. It would ſeem to me, to depend on this principle chiefly; that we conceive the heat of the Eaſt or Weſt Indies, greatly beyond its real ſtandard. And the inhabitants of warm regions imagine the climates of Europe, to be much colder than they really are. When people arrive under this impreſſion in theſe climates, they do not find the heat or cold correſpond with the degrees, imagination had fixed, and therefore they brave all caution, until the fervour of fancy has abated, when they feel the heat or cold as they really are.

After the troops have been ſtationed for a few weeks in healthy ſituations, they might be permitted for a few days at a time to do

duty in leſs ſalubrious places, and then, return again to their former ſtations. They would thus become gradually habituated, and at length reſiſt the influence of the miaſmata. The want of ſuch ſituations at St. Domingo proved highly injurious to our troops. When the troops from Ireland arrived at the Mole, they were obliged to live for weeks on board the tranſports, where an infectious fever raged, and made great havoc amongſt them. This would not have happened if they had been landed and encamped, on the neighbouring hills, or if there had been proper barracks to receive them; the conſequence was, that numbers periſhed; and that little army, which originally conſiſted of five thouſand men, was very ſhortly reduced to fifteen hundred. There were no places prepared for the ſick, or their neceſſaries. Military and medical ſtores were landed in haſte, and ſtrewed the ſhores, like fragments of a wreck. The exertions of the medical gentlemen at this poſt were extraordinary. Mr. Weir, the inſpector-general of hoſpitals, took every poſſible means, of providing in the beſt manner for the ſick. He took the duty of phyſician, and fatigued himſelf in every department that required his preſence. Dr. Jackson exerted his uſual

humanity;

humanity; and Drs. MASTER, CLEGHORN, and FELLOWS, had their ample ſhare of employment. Yet from not ſeeking a more healthy ſituation, the troops periſhed rapidly. In fact, they imported from Ireland an infectious fever, which, for a ſhort period, raged, independent of the endemic of the iſland, and did great execution. In ſuch circumſtances, the exertions of medical men proved of no avail; terror ſpread wide amongſt us, and increaſed the conqueſts of death. Of ſuch importance is it to chuſe healthy ſituations.

It is now time to ſpeak of the healthy poſts at St. Domingo, which unfortunately are few in number, and therefore eaſily deſcribed. It may be the lot of Britiſh troops in the courſe of war, to land again, in this unfortunate iſland. If this misfortune ſhould ever happen, let us take ſuch precautions as the nature of the country, in its preſent ſituation, will admit.

The Mole, from its commodious harbour, is generally the place where troops are firſt brought; but no delay ought to be made in this ſituation. Such troops as are really neceſſary for the defence of the poſt, muſt be landed, and after undergoing the preparatory

regimen already mentioned, they are to encamp on the brows of the hills, beyond the town, in the manner which general WHYTE very judiciously adopted. They are there less exposed to danger, and form a cordon of defence round the garrison. It has been very clearly proved, that lofty situations are not by any means the most healthy in marshy countries; because they are more exposed to streams of miasmata, from the very circumstance of their elevation. We are therefore to chuse dry and well-sheltered situations, especially against the land winds. We are to take care, that no marshes of any extent are to windward of us; and that we have, if possible, streams of running water in our neighbourhood.

After landing at the Mole, what may be absolutely necessary for its defence—the rest of the troops, should proceed for Jeremie, a district of the *Grand Anse*; by far the most healthy situation in St. Domingo. It was to this place, that the convalescent French, used to fly as to Montpelier, for health; and generally succeeded. The inhabitants and troops of this quarter, wear an European aspect, when compared with the sallow complexion of their neighbours. The country is dry and lofty, streams

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of water rush down from the mountains, and the sea breeze, cools and refreshes the air. Here then is the situation, where we ought to land the bulk of our troops for the service of St. Domingo. After they have been in this healthy situation for some weeks, they may be sent to St. Marc's, or the Mole, and last of all to Port-au-Prince. But during their residence at Jeremie, they ought not to be confined to the town; but be scattered over the most healthy plantations, which for this purpose, may be converted into useful barracks. To this the French proprietors cannot object, as they derive from the troops defence and security. The barracks at Jeremie were judiciously erected under Colonel MURRAY'S inspection. If it becomes necessary to send troops, to that fatal spot, Port-au-Prince; they ought not for any time to remain in town, which in fact is a nursery of miasmata. They ought to be encamped on the brows, of the mountains which surround that town, in a curve line from Tourgeot to Bissoton. This plan of incampment, was pointed out by Dr. JACKSON, who travelled over the ground; but it was not adopted from some frivolous objection. It was alleged, that the inhabitants of the town, could not be trusted; or that they

they would loſe confidence and fly the town. This could not well have taken place, when Fort Royal, formed one point of the Semecircle and Biſſoton the other, whilſt the connecting line was a chain of poſts—however, the plan was not adopted.

The greateſt attention ought to be paid, that troops are not placed, in ſituations known to be unhealthy. The ſpirits ſink, and the operation of fear renders the acceſs of diſeaſe more eaſy and certain. To places remarkably unhealthy, as Port-au-Prince, the beſt ſeaſoned troops ought to be ſent; and placed in Fort Royal, which commands the town ſo very completely, that in caſe of commotion, its artillery might very ſoon reduce it to aſhes. The duty in the town might be performed by our beſt colonial troops, under the command of honourable and well-tried officers, ſuch as the baron Montalembert or Deſource. The duty of Biſſoton muſt fall to them alſo, being the moſt unhealthy of all our poſts. The colonial troops would exiſt there, though it be certain death to ours. The Britiſh in this arrangement, are to occupy the brows and declivities of the mountains; dry and well ſheltered poſts. They form a grand outline, and defend the town, at leaſt much more effectually,

effectually, than if they were included in its hospitals. They would be thus removed, from the great source of disease, the miasmata; and they would occupy a country where they would find a purer atmosphere, more chearful prospects, and more healthy amusement.

The Croix de Bouquet is found tolerably healthy, by the French inhabitants, but it has proved fatal to the few British who resided there.

The plantations spread over the plain of the Cul de Sac, form the worst possible barracks, because the whole of that wonderful and fertile spot, is itself a marsh, where a constant exhalation is going forward; and the accommodations for the officers and soldiers are of the worst description; from the devastation of the unhappy negroes, who are willing to erase every monument of human industry, and every trace of their former labours. It is indeed melancholy, to ride among these wide-extended ruins. Every where, marks of opulence, elegance, and commerce, all now levelled with the ground, by many of the hands which assisted to rear and protect them.

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Our troops have alſo ſuffered very much at L'Arcahaye, which formerly was reckoned a very healthy ſituation. Whether it was, that LE POINT the French commandant, did not chuſe any interference, from Engliſh officers, or that he really had no good ſituation for them or their troops; it is certain that all the officers ſent to that quarter made complaints of their treatment. This poſt therefore ſhould be chiefly occupied by colonials.

St. Marc's, formerly pretty healthy, has proved very fatal to our troops. Part of the ninety-ſixth regiment landed there, and were ſoon exterminated to a man. But I believe an infectious jail fever, had raged amongſt them; ere they left the tranſports, and carried off great numbers after they landed. On a view of St. Marc's, it would appear to be advantageouſly ſituated for health. It is ſheltered on the land ſide from the peſtilential land winds, by very lofty mountains; the ſoil on which the town is placed appears dry and ſandy, the ſkirts of it are waſhed by the ſea, which carries off many impurities, and the ſea breeze, blows with little interruption. Yet after all, this place has been very unhealthy to the Britiſh troops. I think the opening of a ditch round the

the town, which exposed a great surface for exhalation has greatly contributed to this unhealthfulness. Indeed the inhabitants themselves made this remark, and seemed to date the commencement of sickness, and fever, from this period.

LEOGANE was also very unhealthy, when we had possession of it; it is situated in a marshy plain. Nor were we much more fortunate in Mirebalais, where it was hoped we should have enjoyed much better health. When Dr. JACKSON visited this post, he strongly recommended, that the British troops should be moved from the ground they then occupied, to a more healthy position, and in fact an order was given to move them; but the French commandant found means to evade it, and detained them; till they all nearly perished. He was engaged in some lucrative contracts of supply; and the British were good customers. The 82d regiment one of the finest, I ever saw, was stationed in this quarter, to which they were sent, as a refuge from the devastation of Port-au-Prince, where numbers of them had already perished; it is melancholy to relate, that they here found no sanctuary, and returned in a few

few months not twenty men ſtrong. In September 1795, this regiment was reviewed by Sir ADAM WILLIAMSON, complete in all its officers, and men; nine hundred and fifty ſtrong; in September 1796, they had not fifty men fit for duty, and in November, arrived at Port-au-Prince from Mirebalais, with hardly their complement of non-commiſſioned officers. This beautiful corps, in the ſpace of leſs than a year, loſt upwards of eight hundred men, and twenty officers. Such is the melancholy devaſtation of this climate.

All our troops then, ought, if poſſible, to be landed at Jeremie, and after undergoing there, a ſeaſoning of ſome weeks, they may be diſtributed in rotation to other poſts; going firſt to the leaſt deſtructive, and continuing a change, till they are able to do duty at Port-au-Prince. The nature of ſervice may occaſionally oppoſe theſe arrangements, as we muſt be guided by circumſtances, and the poſition of our enemy. But where theſe rules can be obſerved, I am convinced they are of importance, and might be regulated and obſerved without expence, and with real benefit to the ſervice.

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I omitted to mention, that the Grand Bois, not very diſtant from Port-au-Prince, is reckoned by the inhabitants equally healthy with Jeremie itſelf. To this place, troops newly arrived might be ordered. I confeſs there are ſome difficulties in the way of theſe arrangements from our uncertain poſſeſſion of the iſland, and the neceſſity of avoiding expence, in a country which has already drained the Britiſh treaſury; as well as proved the grave of the Britiſh army.

I remarked in a former part of this work, that a chief difficulty aroſe in reſtoring Europeans to health, from the continual application of miaſmata, and the relaxing powers of heat itſelf. Once the patient is weak, we ſeldom ſucceed in giving him ſtrength. Languor and debility prevail, in ſpite of every means we employ. The cold bath, and the uſe of bark, though they maintain the patient in ſtatu quo, without any progreſs, yet ſeldom ſucceed completely; becauſe they are powers not conſtantly applied, or uniformly acting; whereas the powers of heat are conſtantly and uniformly applied and acting; their effects then cannot be counterbalanced, by the action of temporary powers, which

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are only preſent for a ſhort period, and effect changes of very ſhort duration. The action of climate, on the human body is perpetual; the action of medicines, temporary and ſhort. The effects of climate then, muſt always prevail, over the action of medicines. Convinced of the truth of this doctrine, by fatal experience; I was always of opinion, that a well-choſen ſituation at Jeremie, for a convaleſcent poſt, would be of the greateſt utility. Here the emaciated officer and ſoldier, placed in a different climate, and ſurrounded by new ſcenes, would be invigorated and recovered. The voyage itſelf would contribute to this deſirable end; the movement, anxiety and novelty, would divert the mind from brooding over misfortune, and give to thought a new and more pleaſing direction. The coolneſs of Jeremie, which approaches an European climate, would contribute remarkably to recovery. We are pleaſed in finding ourſelves in ſituations ſimilar to our native country; our habits are ſoothed, and our conſtitutions acknowledge a kindred ſympathy; whilſt our progreſs in ſtrength every day delights us. From the firſt moment I ever ſaw Jeremie, I was of opinion, that it was a ſituation highly calculated for a convaleſcent

valescent hospital, and post; and that it might not only be itself guarded by convalescents, but also send back to the other posts seasoned men, who having undergone the endemic, and recovered, would feel more confidence and security. In this idea, I was joined by my friend Dr. WRIGHT, with whom I have often coincided in medical opinions; and we jointly gave in a paper to Sir ADAM WILLIAMSON, recommending this measure. He was however preparing to return to Europe, and did not chuse to enter upon a plan, which might be more productive of expence, than he could foresee at that period. The plan was accordingly abandoned. Mr. WEIR has since adopted the same opinion, and partly converted Jeremie into a convalescent station. Dr. JACKSON, who visited this quarter, intended to have sent there all the convalescents of Port-au-Prince; but though he recommended it warmly, the scheme was never fully adopted. There were numerous vessels employed by government, at a vast expence, which often lay for a considerable time idle, that might have thus been most usefully, and beneficially employed, for the benefit of the troops. Jeremie was a central point, to which the

convalescents of the Mole, St. Marc's, Larcahaye, and Port-au-Prince, might have been easily sent, and from which they could again be returned with perfect facility. One of the government vessels, might have been fitted up as an hospital ship, with an assistant surgeon on board, and proper remedies, to convey the convalescents from the other posts to Jeremie. This ship, when not actually on service, might occasionally run to sea, with sick officers, and afford them a chance of recovery, which they could not have on shore. And if well armed, she might protect trade, and be a terror to gun boats and privateers. Such a scheme, though extremely simple, and necessary, was not adopted, after all the recommendation it received. Medical officers can never enforce schemes of health; they may recommend, but cannot execute. Perhaps on these points, their authority is too limited; though an extension of it might interfere with that absolute power, commanders must possess to ensure general obedience. The expence could not be great, when we consider the price of every soldier to government, before he is landed in that country. Many might have recovered at this post, who

languiſhed life away, in the general and convaleſcent hoſpitals of Port-au-Prince; where, though they had good medical aſſiſtance, and as much attendance as the nature of circumſtances permitted; yielded at length to the fatal and perpetual action of the climate.

It is true we had at Port-au-Prince, a building we called a Convaleſcent Hoſpital, placed conſpicuouſly, in the moſt unhealthy part of the town. Elevated beyond all ſhelter, it ſtood expoſed to every land breeze that blew, and arreſted the floating miaſmata, as they were blended with the air. In this hoſpital, it could not be expected, that many recoveries would happen; but as the ſoldiers ſent there, had in general got over the danger of the firſt attack, they lingered for a longer period; and either died there, or returned again to the general hoſpital. The proportion of uſeful recoveries, was very ſlender. Indeed, the general hoſpital itſelf ſtood in no promiſing ſituation, it was low, and on the borders of a marſh. But on the whole, a better ſheltered ſituation than the convaleſcent hoſpital.

Dr. Jackson on his arrival at Port-au-Prince, ſurveyed minutely the ſtate of the hoſ-

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pitals, and was ſenſible of their naked expoſed ſituation. He accordingly recommended looſe thin curtains to be ſuſpended before all the galleries, and to contain within their ſhade, the whole ward, in which the ſick were placed. This was of great uſe; it enlarged the bounds of each ward, by adding the gallery, which before, the ſick could not occupy for the ſun. It afforded them an agreeable change of place, and a cool retreat from the ward, which the breath of ſo many ſick, had rendered hot, and which was made ſtill more diſtreſſing from the groans and complaints of the dying. But it had another advantage, by poſſeſſing a looſe texture, it admitted the air pretty freely; and when the land winds blew and were hot, they were rendered cool, by throwing water on the curtains. The hot winds are thus tempered in the Eaſt Indies, and rendered pleaſant and refreſhing; when they would be otherwiſe inſufferable and dangerous. But beſides theſe purpoſes, the curtains might anſwer another very important uſe: They might probably purify the atmoſphere, by arreſting the miaſmata in their progreſs, and thus anſwer the purpoſe of natural ſhelter.

SECT. III.

Confiderations on General and Regimental Hofpitals—Hofpital Corps, unfit for their Occupation—A Medical Board recommended with large Armies—The Qualifications of Phyficians examined.

IN this Section, I fhall confider fome circumftances, which could not enter fo properly into the difcuffion of the fubjects we have been treating; but which are intimately connected with them. And firft, with refpect to General and Regimental Hofpitals.

General hofpitals have been reprobated by a number of officers, and phyficians, without being able to abolifh them. The eftablifhment of a general hofpital, is always an expenfive cumbrous inftitution. When there are a number of wards, the foldiers, who are able to move, vifit one another, and mingle into focieties and clubs, where military habits are loft, in riot or idlenefs. The attendants too, have a fimilar intercourfe, and as they muft have charge of the wine and liquors, pre-

ſcribed for the ſick; they are enabled to enliven their meetings, by a conſiderable ſhare of gaiety. In this manner, the ſick are often totally neglected, in ſpite of every vigilance on the part of thoſe who attend them. Squabbles, noiſe, and riot, are the reſult of theſe aſſociations. It has, I believe, been remarked, that though a ſoldier may enter a general hoſpital with all his military ardour thick upon him, that he will never return with it.—And I have ſeen enough to convince me, of the truth of the obſervation. Though the ſoldiers are in general very unwilling to enter, they are equally unwilling to come out; and linger their time in paſſive languor, or in the more deſtructive ſcenes of debauchery. The inſtitution of general hoſpitals, throws on the medical ſtaff, the whole duty of regimental ſurgeons; who are thus rendered idle and uſeleſs. It was thus at Port-au-Prince, previous to the arrival of Dr. JACKSON, who regulated the regimental hoſpitals on a better footing. There was indeed one belonging to the twenty-third regiment, which was very well managed; and with little expence to government, under the direction of Mr. BORLAND, ſurgeon of that corps. Mr. WEIR at the Mole, arranged the regimental hoſpitals in

in ſuch a manner, that they had very few indeed, in their general hoſpital. At Port-au-Prince, we ſeldom had leſs than two hundred, and often more. The reaſon was, that there were not, well endowed regimental hoſpitals, and that the ſurgeons, the moment a patient was reported to them, ordered him to the general hoſpital. The conſequence was, the general hoſpital was crowded, and became the receptacle of all the army. Many arguments are in favour of regimental, in preference to general hoſpitals. The inſtitution itſelf is conducted with little expence to the public; whereas a general hoſpital creates an enormous demand, and adds greatly to the expenditure of an army. In moſt regiments, there is a fund appropriated for this purpoſe; which if properly managed would prove in general equal to the expence. But if it ſhould not, it would be much better for government to afford them a regulated ſupply under the inſpection of a proper officer, than to inſtitute a general hoſpital. A regimental ſurgeon muſt derive great aſſiſtance, from knowing the character and diſpoſition of his patient; which in a general hoſpital cannot be ſo well known or aſcertained. The patient is attended by his comrades, from whom he will receive more

tendernefs of attention, than can be hoped for in the indifcriminate attendance of hired nurfes. Nor has the patient the fame chance of departing from his military habits and becoming corrupted. The circle in which he is placed is narrower, and his opportunities to err fewer. He is placed more immediately under the eye of his officers, who, by frequent vifits, maintain good order in the ward. To thefe officers, they know they are to return when their health is re-eftablifhed, and they are confcious their behaviour will be noticed and recollected. In a place like St. Domingo, where numbers are at once taken ill, it may not be convenient to obtain houfes independent of public inftitutions to contain all the fick of a regiment. When this is the cafe, the general hofpital, may be divided into departments for each regiment, and their furgeons in that fituation, ought to attend them. If they require medicines or fupplies, which the regimental cheft, or regimental fund cannot fuftain, let them be fupplied from the ftores provided by government for the army at large. It may be afked, how the medical ftaff are to be employed in this arrangement, as the patients in the ge-

neral hoſpital are recruited from the ſeveral regiments in the garriſon? The ſtaff may be moſt uſefully employed in ſuperintending theſe hoſpitals, in ſeeing the mode of practice, in correcting abuſes; and in aſſiſting, where their ſervices may be moſt requiſite. This will afford the ſtaff ſufficient employment; with the occupation of attending the ſick officers in their reſpective quarters. In this manner, an amazing expence will be ſaved to government, and the military habits of the ſoldiers will be preſerved; whilſt they will have the benefit of better attention, both from the ſurgeon and their comrades. The ſurgeons themſelves, will have an opportunity of acquiring knowledge and experience; and will be employed in the proper line of their duty.

To correct abuſes in the French departments, will occupy the attention of the inſpectors in St. Domingo; with the greateſt advantage to the country. It is aſtoniſhing with what eagerneſs and acuteneſs they purſued depredation, and what a variety of ingenious pretexts they formed, to attain their purpoſe. Nor is it eaſy to exculpate their leaders from ſome ſuſpicion of countenancing theſe frauds.

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The difficulties, with which any improvement was introduced, which proposed reform, or the diminution of expence; lead to a belief, that they have an interest in supporting the imposition. Dr. JACKSON, found unexpected obstacles thrown in his way, by commanding officers. And it was after much trouble and difficulty that his plans were partially executed. Yet his scheme made a saving to this country of £.50,000 a year; no small retrenchment in one department.

In this charge, I do not, without discrimination, involve the French officers of rank; this would be illiberal and unjust; there are amongst them, men for whom I entertain the highest respect, and who deserve well of this country; but there are also men, to whom these charges will fully apply, and who have enriched themselves by the spoil of this island.—

HOSPITAL CORPS.

Another argument againſt general, and in favour of regimental hoſpitals, ariſes from the mode of attendance on the ſick. It was impoſſible at Port-au-Prince, to procure female nurſes for the general hoſpital. It became therefore neceſſary, to employ ſoldiers, who having eſcaped the endemic, or recovered, had more confidence than others. But although ſoldiers readily attend their own comrades, in the ſame regiment, they do not ſo willingly wait upon others. Beſides, the regiments to which ſuch ſoldiers belong, do not eaſily agree to let them continue in the general hoſpital. Theſe difficulties, which were repreſented, gave riſe to the levy of an Hoſpital Corps; from which all ſuch men were to be taken. All the orderly men or nurſes, were to be ſupplied from this regiment; and the military commandant was to ſee, that they behaved in a decent, regular, and proper manner. He was to attend to the complaints made to him by the phyſicians and ſurgeons, and to direct his men, in the moſt uſeful manner for the benefit of the ſick. To perform theſe duties, it is evident

evident that the men who composed this corps, should be regular, sober, and humane. No duties are more sacred, than attentions to the sick; no duties require more strictness of manner, or greater decency and firmness of deportment. Such a corps, ought to be composed of the best men of the army, to whom this occupation might be given as a release from severer duty, and a reward for good conduct; as the pay is better than in the ranks, and the service to be performed, not quite so laborious as in the field. But instead of forming this body on these principles, they were made up of outcasts from all regiments; either of men, whom disease had incapacitated for any duty; or of those who had abandoned themselves to drinking and debauchery. Thus constituted, they were much fitter for Botany Bay, or the hospital of invalids, than any employment which required humanity or action. But to these men we were obliged to consign the nocturnal charge of the sick; on these, they depended for drink, and every other assistance during the night. Many neglects must have happened from such attendants. Had this corps been properly made up of well behaved and steady men, it might be of great

ſervice; but in the manner it was conſtituted, could not be of any uſe.

Another great difficulty, occurred to the medical gentlemen who had charge of wards. There were not a ſufficient number of aſſiſtants, to make up the preſcriptions, or pay the neceſſary attention in ſeeing them taken. On many occaſions, a ward containing eighty patients, had only the attendance of one medical gentleman, who was obliged to be apothecary, attendant, ſurgeon, and phyſician. It is true, we trained up ſome careful men to aſſiſt in making up preparations, but they could not be wholly truſted to their care.

Such were the labours that medical gentlemen had to undergo in this deſtructive climate. Others had ſome reſt from their labours, they enjoyed no interval of eaſe; no ceſſation from their toils. The government at home were not to blame for this ſcarcity of aſſiſtants. They had ſent out numbers, on the ſtaff, and attached to regiments; but the climate had ſwept them away. One man who is once ſeaſoned in that country, and can be depended on, is equal to a hoſt of ſtrangers, who themſelves require aſſiſtance, and fall

victims,

victims, when their exertions are moſt required. Seaſoned men, ought to have every encouragement, and ſhould be ſought with diligence; on them only can the ſick, rely for aſſiſtance. Ere they are ſeaſoned to the climate they muſt acquire experience; and theſe two qualities are invaluable. If a ſervice does not reward merit, it will never have men of talents; they will deſert it; and employ themſelves, where they are rewarded. How many regiments and ſhips of war, have I ſeen in St. Domingo, without a ſurgeon or mate, from the plan of employing young and inexperienced men.—They fell victims themſelves, when their aid was moſt requiſite. But ſuppoſing, they had lived, what aſſiſtance could they have given to the ſick; a new ſcene was preſented before them, and unheard of deſtruction. The rapid progreſs of an aſtoniſhing fever, amazed their faculties, European practice was tame and feeble, former experience only tended to confound them; they were idle ſpectators, till they themſelves periſhed. It is true, that we muſt all begin to acquire experience, in a ſtate of comparative ignorance; but thoſe who command armies, ought to chuſe their medical aſſiſtance from warm climates; which, though they may not preſent ſcenes like St. Domingo,

Domingo, will at leaſt prepare the phyſician, more than the ſchools of Europe. I am ſure I ſhall not be contradicted, when I aſſert, that it is abſurd to ſend out phyſicians from London, to combat the diſeaſes of St. Domingo.—The requiſite knowledge for this purpoſe can only be acquired on the ſpot, after a long, painful, and accurate attention. Out of ſeven phyſicians, all highly qualified in their profeſſion, who were deſtined for the St. Domingo eſtabliſhment; only two were doing duty when I left that iſland. Dr. CLEGHORN, fell a victim to the fever at the Mole. Dr. FELLOWS, after ſtruggling long, to perform his duty, was obliged to retire, in an almoſt hopeleſs ſtate. Dr. CAVE, has been obliged to return alſo; Dr. MASTER, who in a ſtate of illneſs, nobly continued his labours, underwent much ſickneſs; he and Dr. HENDERSON only remain of the ſeven phyſicians who were meant for the iſland.

Inſtead of ſending medical men from England to thoſe iſlands, where they have little chance of exerciſing their profeſſion, or even of preſerving their lives; phyſicians of character ought to be encouraged, from Jamaica, Barbadoes, and other hot climates, where

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ſimilar diſeaſes reign, and where they have been already ſeaſoned. Thoſe who have followed the army and acquired experience, are ineſtimable, and ſhould receive every encouragement. To a knowledge of the climate, and its diſeaſes, they add another valuable acquiſition, the knowledge of the habits and manners of ſoldiers; the moſt neceſſary knowledge to a military phyſician or ſurgeon.

Let the moſt celebrated phyſicians of Edinburgh or London, be ſent out with an army to a warm climate, like St. Domingo; without being previouſly ſeaſoned, and acquainted with military habits; and I believe they would feel, and acknowledge, the truth of theſe remarks. It is aſtoniſhing that any other mode of recruiting this eſtabliſhment, ſhould ever be thought of. The army itſelf, generally ſupplies a great number of men of good abilities, who have braved the climate, and ſeen a great deal of practice. To theſe, in proportion to their abilities, a juſt preference ſhould be given; when they are not to be found, it is then fair and proper to look out for others, who may be competent to fill the ſtation. But in the Weſt Indies, or in ſuch iſlands of them, as have a large army, there

there ought to be a *Medical Board*; to examine ſuch candidates as may offer themſelves on the ſpot, and may be requiſite to nominate. It is there only, in actual practice, and doing actual duty; that a judgment can be formed of the abilities or induſtry of any one. Such a board might be compoſed of two inſpectors, two phyſicians, and two ſurgeons; who would regulate and fill up vacancies, and recommend the proper people for advancement.—The recommendation of ſuch a board, to the commander in chief at home; ought to inſure the candidate, whatever they recommended. In this manner, the ſervice would never be in want of proper aſſiſtance; and the diligent, induſtrious and able candidate, would be rewarded. Men will not chuſe to enter a ſervice, and forſake other purſuits, on vague and uncertain grounds; nor is it fair to expect it, without ſome aſſurance of benefit. But on the preſent footing, nothing can be promiſed, till an anſwer is obtained from home. In the mean time, the ſervice ſuffers, by the want of aſſiſtance, which might be procured; if the inſpectors on the ſpot, and who alone can be judges, enjoyed ſufficient power. I could adduce many proofs of inconvenience and loſs to the ſervice, from this management.

Boards are a council, for the commander in chief, to advise him on points, in which he cannot be supposed himself perfectly conversant. Of this kind are medical appointments; of which medical men, ought undoubtedly to have some direction. They are to take care, that no improper person, shall fill any medical situation in the army; they are answerable to the commander in chief for their recommendations, and are in fact to advise him on the medical department. Thus far their powers extend, and thus far they are proper. If it be right to grant these powers to a board at home, it would be still more proper, to grant them to one abroad. The board of England is competent to regulate all the business of the three kingdoms, because the diseases of these countries are nearly similar; and the course of education pursued in our medical schools, qualifies their pupils for this service. Abroad, it is otherwise. No course of lectures, no reading, can qualify for that service. A long experience, and accurate observation, can alone entitle the practitioner to any confidence. The diseases are too rapid for delay, too dangerous for doubts. The physician must at once decide, or the patient is lost for ever.

A very proper caution, and a very proper respect to an useful form, have been too rigidly adhered to, in the conduct of Medical promotions. In the origin of degrees, or medical graduation, the chief point of importance, was, that by holding out a certain number of professional examinations, through which the candidate must pass, he would be obliged to possess a liberal education, and pay strict attention to his pursuits. When he had passed these trials, he came forth sanctioned to the public, by the approval of a learned body, supposed, impartial judges of his merit. The public became thus guarded against empiric pretenders, against improper and illiterate practitioners. No liberal man will deny these useful and necessary forms, his warmest approbation. It must be confessed, that many universities, departing from the dignity of this form, have prostituted their sanction, to any person, who could purchase their seal and signature. It is therefore necessary, that some colleges, maintaining the purity and intention of the original form, should gain to their candidates a preference.

The benefits of this general protection, against empirics, were very properly extended

to the army of late years only. But the rule has been adhered to, with more than ordinary rigidity. The line of phyſician to the army has been confined to the graduates or bachelors of the Engliſh univerſities only; ſome exceptions have been made in favour of Dublin. I have ſaid, that the form itſelf is highly proper, but I ſhall go farther, and ſay, that on a fair liberal conſtruction it cannot be too ſtrictly adhered to. But making every allowance for the celebrity of other univerſities; I believe it will hardly be queſtioned, that EDINBURGH, is at this moment the FIRST MEDICAL SCHOOL IN EUROPE. If this is true, as I believe will be acknowledged, upon what principle are the graduates of that college excluded from being phyſicians to the army? unleſs they are alſo licentiates of the London college. It cannot be fairly ſuppoſed, that Edinburgh, anxious for the fame of its ſchool, is leſs ſtrict than the London college in its examination of candidates. If the other univerſities are leſs ſcrupulous, it is no good reaſon for claſſing Edinburgh with them, under a general prohibition. An examination at London, will hardly inſpire any candidate with ſudden knowledge. And I imagine, it will

not

not be denied, that a ſtudent from the Edinburgh School, is as likely to underſtand the theory of Medicine, as a pupil of Oxford, Cambridge, or Dublin. Fortunately, ſcience is not confined to any one univerſity, but may be acquired in all, by genius or induſtry.

But if a reſtriction is neceſſary, and I am of opinion it is; let the great ſeminaries be privileged to offer candidates, viz. The Two ENGLISH UNIVERSITIES, DUBLIN, and EDINBURGH, let their graduates, without any further examination, be eligible, for the office of phyſicians to the Forces. But it is not ſurely neceſſary to oblige theſe graduates to paſs at London. The urgency of ſervice, and the neceſſities of war, ſometimes require that the moſt poſitive rules, which guide, in time of peace, be laid aſide for the benefit of the ſervice. What will do in time of peace, will not anſwer in time of war.

Theſe remarks apply to every department of the army. Promotions muſt be made for the purpoſes of war, which in time of peace, would very juſtly be reprobated as improper; as an infringement on the general rules of the

 army.

army. But theſe caſes of neceſſity ceaſe, when the urgency which gave riſe to them no longer exiſts. The EAST INDIA Company, the moſt extenſive and opulent commercial body in Europe, have laid down very juſt and proper laws to regulate their ſervice in time of peace; but in time of war theſe laws give way to caſual urgency and unforeſeen neceſſity. If it becomes neceſſary then on ſervice, and in time of war, to break through eſtabliſhed rules, in the great body of the army itſelf; is it not to be expected that in every leſſer department of it, urgencies and neceſſities may ariſe, which juſtify an infringement on general rules, that have not provided for theſe caſualties.

Let us ſuppoſe, that an army, well appointed in the medical department, ſets out for St. Domingo; but ſoon after its arrival there, is deprived of its phyſicians and ſurgeons, who periſh in the fever; let us further ſuppoſe, that this army continues ſickly, and every day, more and more requires aſſiſtance. Jamaica is in the neighbourhood, with many experienced practitioners; but alas! they have not undergone an eſſential form, they have graduated at Edinburgh or Dublin, and therefore

fore are not eligible. Would this reafoning guide the commander in chief; would he permit his men to perifh, becaufe no licentiate of London could be called to their affiftance?—

But independent of this difficulty, another ferious objection would oppofe his procuring affiftance. A practitioner in Jamaica or St. Domingo, unconnected with the army, and engaged in other purfuits, would not readily be induced to forfake thefe, and engage in a fervice, for a temporary benefit; fome inducement muft be held out, fome permanency offered; but this neither the commander in chief or the director of hofpitals can pofitively do. In thefe circumftances, which are not unlikely to happen, and which I have feen nearly verified; the army may perifh without affiftance. From this ftatement, it would appear, that in certain circumftances, it is juft, expedient and proper, to break through rules, which have made no provifion for urgency and neceffity; for the great cafualties and calamities of war. The rule may be proper in time of peace, but does not apply to war.

But independent of the diplomas of univerſities, which certainly prove, that a man has walked through the formalities of his education, as barriſters eat their commons; public teſtimonies of another kind might be ſometimes admitted in favour of a phyſician to the army. Of this kind, are the publications of medical men, their profeſſional character and ſucceſs. I ſhould have conceived, that Dr. JACKSON'S book on the Fevers of the Weſt Indies, would have entitled him to be a phyſician to the army; if he had no other teſtimony, and had never ſeen London, Edinburgh, or Dublin.

I think upon the whole, that the rule of making licenciates only, phyſicians to the army, is too rigidly adhered to, and that the power of the director of hoſpitals is too limited; and that both may be productive of bad conſequences to the army. I am not ſure, whether it would not be for the benefit of the army, to make it a ſtep, to the ſurgeons, after a long and approved ſervice, and thus make it a military graduation. This would hold out ſomething to men of experience, to continue in the ſervice, ſomething to reward their toils and labour; at preſent, it muſt be confeſſed, that there

there is no encouragement, to bind a man of talents to the army. I believe, that this was once a plan in the ſervice; and if ſtrictly but fairly regulated, would prove very beneficial.

Having now gone through this miſcellaneous ſection, I ſhall proceed to ſay a few words, on Wines, and ſome further remarks on Diet, in which ſome obſervations will be offered on ſmoaking; and bilious complaints.

SECT. IV.

Conſiderations on Diet, adapted to the Climate—Claret and Madeira compared—Diet recommended by the Author—Smoaking conſidered—Its Effects—Flannel examined—Cotton Shirts recommended——Bilious Complaints—Cauſes of Bile—Cure—Of the Prickly Heat—Its Cauſes and Nature—It is not dangerous or critical—Bathing not dangerous when it is out.—

IN the general remarks offered on Diet, I did not enter ſo particularly into the ſubject as might be requiſite. I ſhall here obſerve, that I think ſome changes might be introduced with real advantage in the diet of our ſoldiers in the Weſt; particularly in their drinks. Rum, in the manner they get it, muſt poſſeſs pernicious qualities; it is of the very worſt kind, ſtrong and ardent. Moderation is not the moſt conſpicuous virtue among ſoldiers. I think good porter might be ſubſtituted with great advantage inſtead of rum:—It ought to be of the beſt quality and bottled in that country:—Of this it would not perhaps be too

much, to grant each ſoldier three pints per day. Porter is more nouriſhing, and leſs pernicious than rum or brandy ; it has not that active ſtimulus, which by repetition ſoon exhauſts the excitability, or gives vigour to morbid cauſes. This might be occaſionally varied with ſpruce beer, or a pint of ſound Madeira. On ſome occaſions, ſuch as, when a centinel is expoſed to a cold, or rainy night, a wine glaſs full of good brandy may, I think be given with advantage ; one as he enters on duty ; and another when relieved, before he lays down. I do not imagine, that this would be injurious, in theſe particular circumſtances. It would tend to ſupport the vaſcular action, which the application of cold is apt to diminiſh ; and this diminution of action ſeems favorable to the invaſion of diſeaſe. The excitement of a glaſs of brandy would not be ſo great as to bring on any formidable collapſe. The porter ſhould be ſo divided, that no more than a pint be taken at a time ; in larger quantities, it brings on drowſineſs, and favours the production of bile. One pint might be diſtributed in the forenoon, mixed with water ; another at dinner-time, and a third at bed-time. This would be ſufficient for the ſupply of

moiſture

moiſture and nouriſhment, and would in no degree, produce intoxication.

Thus much, regarding the ſoldiers; I ſhall now conſider the diet and drink of officers, who live in a manner ſomewhat different. And firſt as to wines:—The chief of theſe uſed in the Weſt Indies, are Madeira and Claret; port being reſerved only for the ſick. Good, ſound, old madeira, is no doubt an excellent wine in that climate; in this condition the volatile, ardent and ſpirituous part has in a great meaſure fled, and the body, conſiſting of a great baſis of water and the juice of the grape remains. But few officers drink this quality of madeira, becauſe it cannot be procured; they are obliged much oftener to uſe a ſecondary kind, into which a good deal of brandy has been thrown. This ſort of madeira, is nothing more than a mixture of brandy; and the drinking of it muſt be very pernicious, and afford many opportunities, for the attacks of fever. Claret is leſs ſubject to adulteration, and when ſound, and of a good body, appears to me the fitteſt wine for the Eaſt or Weſt Indies. It poſſeſſes more of the nutrient grape, and leſs of the

ſpirituous

ſpirituous part than madeira; and it is not by any means ſo apt to intoxicate; it poſſeſſes beſides an uſeful laxative quality. Suppoſing then madeira and claret, to be of equal good qualities in their kind, I ſhould give the preference to claret. I believe it leſs injurious to the conſtitution; leſs ſtimulant and heating; and more temperate and nouriſhing. Faſhion and accident frequently guide mankind in the choice of the moſt important things; no wonder that they ſhould rule their luxuries, which are their offspring. In the Eaſt Indies, univerſally, a preference is given to claret; in the Weſt, madeira bears the palm. The claret uſed in India, under the name of Engliſh claret; or claret for the London market, has always appeared to me the beſt kind of it; it has a full body, and is ſomewhat more powerful, than what the French themſelves uſed. I believe, it will be generally allowed, that claret neither intoxicates nor heats the body ſo ſoon as madeira. Theſe two circumſtances, are in my opinion a good ground for a preference to claret: but many are deterred from drinking claret, from an idea that it has not ſtimulus enough for a relaxed ſtomach; or that it is, what they call too cold. I believe this objection to be partly fanciful;

fanciful; but to prevent this danger, a few glaſſes of madeira may precede the claret, ſo as to heat and warm the ſtomach; or what would anſwer equally well, a half wine glaſs-ful of brandy; with this foundation, the claret may be taken without any danger to the ſto-mach. There are many who believe that pretty hard drinking contributes to their ſafety in a warm climate. I am by no means of this opinion, for I think in its conſequences, it ſubjects them more readily to the invaſion of fever; but moderate living with a due pro-portion of ſolid, and liquid nouriſhment, con-tributes to the maintenance of health, and preſerves the conſtitution from diſeaſe. It is very difficult to draw the line accurately; but I ſhould think it a good general rule, to eat ſmall portions of animal food; to eat ſoup or broth, and to let vegetables have a place in our repaſt. As to drinking, we may perhaps do well not to exceed what promotes cheer-fulneſs and a ſocial ſpirit, without intoxica-tion. The quantity which in different con-ſtitutions produces this diſpoſition, is as va-rious as the conſtitutions themſelves. But I ſhould imagine, that a bottle of claret after dinner, when a perſon ſits two hours, cannot prove injurious to the conſtitution; for in

this

this climate there is a conſtant perſpiration going forward, which exhauſts the body, and diminiſhes the fluids, unleſs a conſtant ſupply is ſupported: and as the proportion of animal food ought to be diminiſhed, from which the chief nouriſhment is extracted, this mode of deriving it from fluids, becomes more neceſſary and uſeful. Perhaps a life of abſolute ſobriety, would not conduce to health in the Weſt Indies,; the ſyſtem would become too weak and languid; and obſtructions might happen; ſo that ſobriety itſelf might be an error; but to this error few officers are likely to fall a ſacrifice.

But it muſt not be ſuppoſed, that I am encouraging debauchery, or drunkenneſs, when I recommend a rather generous manner of life. There is a great difference, between living well, and living freely, between moderation and exceſs; but we obſerve, in warm climates, that the natives, who live entirely on vegetables, and to whom religion forbids, wine and animal food, are weak, timid, and incapable of exertion. They do not attain the ſtrength or activity of their neighbours, who indulge in theſe articles of food. The Gentoos, or Hindoos, are not ſo athletic as

the Mahometans or Perſians, who are not reſtricted by the ſame laws of abſtinence. Hence, it is fair to conclude, that moderate portions of wine conduce to vigour and the maintenance of health.

It is a cuſtom in the Weſt Indies, founded on ſenſation, to drink during the forenoon, and the day, ſome diluent, refreſhing drinks; this is done in obedience to thirſt, a very imperative ſenſe. Weak ſangoree, or a drink made up of ſound madeira, water, acid, and ſugar; lemonade, tamarind water, and ſuch compoſitions, are cooling and pleaſant; and may contribute to health by ſupporting perſpiration. Perſpiration greatly conduces to health: it preſerves, by the evaporating proceſs, a great coolneſs in the body; it relieves the veſſels from the diſtention of the fluids, and permits the expanſion by heat to go on without pain or detriment. It diminiſhes the ſaline and ſtimulant part of the blood; and it may throw out of the body the miaſmata themſelves, which excite and cauſe fever. The obſtruction of this moſt uſeful diſcharge, muſt be productive of the worſt conſequences; but it can only be ſupported, by keeping up a regular ſupply of fluids, which theſe mild

diluents very amply do. It is ſometimes aſtoniſhing, how quickly it is produced after a drink of this kind; it burſts forth almoſt immediately. Whenever I found the perſpiration diminiſh, and my ſkin becoming parched or dry, I uſed to re-eſtabliſh it immediately, by a draught of ſangoree, or lemonade. A free perſpiration, is the ſureſt preſervative of health in a hot climate. In carrying on duty at St. Domingo, I was expoſed to a good deal of riding, being generally ſix or eight hours on horſeback every day; and conſequently I perſpired very freely.—I never, wore flannel, but made uſe of cotton ſhirts. It was not unuſual with me to ſhift five times a day; ſometimes oftener, each ſhirt being drenched in perſpiration. To this profuſion of it, I attribute my ſafety, amidſt ſo much exhalation of miaſmata, for ſo long a time. I drank freely of lemonade, ſangoree, tamarind water, weak wine and water, and other diluent compoſitions; and when night came, I was always prepared to enjoy my repoſe.

The tea breakfaſt, uſed by us in the Weſt Indies, appears to me leſs ſuited to the climate, than the breakfaſt of the French; though I think, they rather incline to exceſs. What

is called a ſecond breakfaſt in our iſlands, does not ſeem to me calculated to ſupport health. But I do not object ſo much to tea itſelf, on the ground of its being, what is called nervous, as to the quantity of warm water we drink with it; which is certainly relaxing, and which tea is not calculated to correct. Now it is of the utmoſt conſequence, to preſerve the powers of the ſtomach, as entire as poſſible; for the vigour of the body increaſes, or diminiſhes in proportion to the powers of this moſt eſſential organ; from which as from a center, ſtrength and nouriſhment are propagated to the reſt of the ſyſtem.—But warm water is not calculated to ſtrengthen the ſtomach, or add to its energy; on the contrary, its long continued uſe muſt relax, weaken, and impair its powers; nor is the reſt of the breakfaſt calculated to inſpire vigour. The butter is ſeldom good, nor are oils eaſily digeſted. The breakfaſt which I uſed, and found light and nouriſhing, was made up in the following manner. With bread, I uſed freſh eggs, or a ſmall portion of tender beef ſteaks, or broiled pigeons, or a ſlice of beef; and inſtead of tea and hot water, I drank cold water with a fourth part claret. This breakfaſt I always found light,

light, and easy of digestion. The first part of it, afforded sufficient nourishment, without creating bulk; and the cold water and claret braced the fibres of the stomach, and gave them strength. I placed great reliance, on the water's being very cool; to effect which, I had it in a jar of a loose clay texture, through which the water perspired, in the day time; and in the night it was exposed to a stream of air; so that, in the morning, it was cool and pleasant. After this breakfast, I found myself light and vigorous, and equal to the duties of the day. I must confess, I think it more salutary, than tea, hot water, and rancid butter. I never indulged in suppers, which I think are too heavy meals, for a hot climate. The stomach must be assisted by exercise to perform its functions; it is not so powerful as in Europe; and as it has not the advantages of exercise to assist it after supper, that meal may be laid aside with advantage.

Some caution is necessary in the use of fruits, in which strangers are apt to indulge immoderately at first. I think the use of them is more salutary at breakfast, than after dinner. They are applied more closely to the coats of the stomach; there is more exercise to digest

them; and the taſte itſelf is more pure, and is a better guide than after dinner. Oranges, melons, pine apples, plantains; in moderate quantities, are good and ſafe fruits; there is another which is not inaptly called vegetable marrow, from its reſemblance to that animal ſubſtance, which may be uſed with great ſafety. —I have ſeen a preparation of it, with lime juice and ſugar, which reſembles in taſte ſtrawberries and cream. It will not be a bad rule to reſtrain the appetite for ſome time, in the uſe of theſe fruits, gradually allowing more indulgence, till they can be uſed with perfect ſafety. That the ſtomach may not give way too much to a new ſtimulus, it will be a proper rule to take a little brandy after uſing fruits; and in this manner, I think they may be taken with ſafety and advantage.

Nature, in every climate, ſeems to have produced, what is more immediately uſeful and grateful to its inhabitants.—In moſt countries we not only find the neceſſaries of life; but that kind of them moſt ſuitable to the nature of the climate. Nothing can be ſo grateful to the thirſty palate, as the mild acids of the orange and tamarind; nothing more luxuriant, than the delicate flavour of the pine apple or

the mangoe. These happily abound, where they are most requisite and grateful. Every warm climate abounds in them; the poor and the rich may banquet at nature's luxuriant table.

I have seen a practice pursued in the army, which I think very improper. I allude to the giving the men ardent spirits previous to their undertaking fatigue. Nothing can be more preposterous than this practice; instead of enabling men to bear fatigue, it wholly unfits them for it. If it is meant to create a temporary frenzy, in a desperate attack, it may perhaps answer the purpose; but unless the enterprize is effected in a moment, we will be disappointed; the languor soon follows the excitement, and renders them passive; and it has been already shewn that great walkers, and men who undergo the greatest fatigue, are those who live moderately, and during the performance of those exertions use water chiefly.

Great portions of animal food exhaust the system, like the use of ardent spirits; the excitability is wasted, and an inclination to sleep induced. Previous to the undertaking

of any ſerious ſervice, where fatigue is expected, the canteen of every ſoldier on parade, ſhould be examined, and filled with lemonade or water. No ſpirits or mixture of ſpirits ſhould be permitted, till the ſervice is performed, when greater indulgence may be granted. In the ſtate produced by ſpirits, ſoldiers either become raſh and diſobedient, or obſtinate and cowardly. In a ſtate of ſobriety the influence of habit and diſcipline, will make them follow their officers and obey orders.

I come now to ſpeak of another luxury connected with health, which officers and ſoldiers uſe in the Weſt Indies, viz. SMOKING TOBACCO. This is an artificial luxury, few men naturally take to ſmoking tobacco; becauſe it is at firſt highly unpleaſant, and a taſte for it can only reſult from perſeverance and habit. Smoking in India is a real luxury; the hookah contains, the moſt grateful odours of the Eaſtern ſpices; the tobacco itſelf is of a particular delicate kind, and is ſo involved among other ingredients, that its peculiar ſmell or flavour are not perceptible. I have ſeen European ladies, ſit in the rooms, where gentlemen ſmoked, to enjoy without trouble, the fragrant ſmell, the hookah diffuſed;

fused; nor do I recollect, that I ever saw it unpleasant to any stranger. The smoking of tobacco has no claim to this character; it is almost universally disagreeable on first trial; and it requires no small effort to persevere, and render it pleasant.

It is not easy to ascertain, what first led to the origin and commencement of this practice. Perhaps an opinion of its medical virtues, induced some, whilst others commenced from mere idleness. The languor of heat, and the inactivity of cold, have equally produced smokers, because the effect is nearly equal. In Asia, the more elegant luxuriant methods are employed, which amuse and excite, the gay and volatile inhabitants of these fertile regions. The Turks delight, in the pleasant fancies, and delirium of opium; whilst the more phlegmatic, and less irritable inhabitants of Kamschatka, and Holland; use the more powerful stimulus of tobacco, which alone can rouse their torpid and lethargic habits. In the West Indies, the only improvement on the Dutch method, is the use of the segar—which is a milder kind of tobacco than the Virginian. In some places it undergoes particular management; it is exposed to the sun,

after being repeatedly washed in water; so that the strong essential oil is dissipated and evaporated, and the leaves rendered milder. After this preparation, they are rolled up into tubes for use. The Spaniards are famous for their segars, which by connoisseurs are supposed to excel all others.

There cannot be a doubt, that the use of smoking has been pursued for years, by men who have not materially suffered from it; just as men pursue a course of drinking, without seeming to receive injury. But this is a negative and very doubtful proof of its healthfulness. When we attend to the effects of smoking, we find, that after proving a very considerable stimulus, great languor is induced. For tobacco produces nearly the same effects as ardent spirits or opium. It exhausts excitability, and exposes the constitution to the action of morbid powers. The worst effect of smoking tobacco, is the loss of saliva or spittle, which it produces. This not only weakens the system, by creating an unnecessary evacuation, but proves also highly destructive to the digestive powers of the stomach. For there is no doubt, that the saliva, which forms a large portion of the juices

juices which blend and ſubdue the ingeſta of the ſtomach; poſſeſſes great power, in the proceſs of digeſtion. It has been proved in Dr. BLACK's experiments, and in thoſe of IRWIN, that the muſcular powers of the ſtomach have leſs influence on digeſtion, than was generally imagined. The liquors which ſeem to act as menſtrua to the food, appear to carry on the digeſtive proceſs, with little reliance on the muſcular ſtructure of the organ, where it is carried on. The expulſion and propelling of the mixed maſs, ſeems wholly to depend on the muſcular fibres of the ſtomach; and ſomething muſt be granted to their action in the digeſtive proceſs itſelf. For digeſtion is ſeldom well performed, where we have reaſon to ſuſpect relaxation in the fibres of the ſtomach; and we find, that we improve the appetite and digeſtion, when we ſucceed in removing the relaxed ſtate. But whether this lax ſtate of fibre, affects digeſtion from the mere effect on the muſcular fibre, or by changing the nature of the gaſtric juices, ſo as to weaken their powers; cannot be eaſily aſcertained. At any rate, if it be admitted, that the ſaliva, is neceſſary or uſeful in digeſtion, the waſte of it by ſmoking, muſt prove highly injurious to that proceſs. And in

fact,

fact, I have ſeen it ſo repeatedly; few of the eminent ſmokers, are able next morning to enjoy their breakfaſt, and make no great figure at dinner. I had an opportunity in my own houſe at St. Domingo, of remarking particularly the effects of ſmoking. A very amiable young man, lived with me for ſome weeks; who was uncommonly attached to his ſegar. He began as ſoon as he was out of bed, and continued it all day, with little intermiſſion, until bed time. The conſequence was, he loſt his appetite almoſt entirely, he could not digeſt any ſolid food, he lived on ſoup, and other light articles; he was thin naturally, but became more emaciated, from the continuance of ſmoking. This maraſmus or waſting, and the loſs of appetite; I attribute entirely to the great expenditure of ſaliva by ſmoking.

I have ſeen in many people of a coſtive diſpoſition, that the ſtimulus of ſmoking, communicated from the mouth to the ſtomach and inteſtinal canal; has produced action in them, and procured a ſtool; many people ſmoked for this purpoſe only. The ſoldiers ſmoked for paſtime, and to obviate the effects of rain. It raiſes the pulſe, and maintains

maintains a considerable excitement in the system; in this way it acts in the same manner with ardent spirits or brandy; and may in moderation be really useful. Like other stimuli, the quantity and duration must be increased; otherwise smoking loses its effect; at length it becomes a necessary habit, and enslaves the constitution.

Upon the whole then, it seems to have had its origin, from lassitude and idleness, and to have been perpetuated in climates, where these dispositions are created from extreme heat or cold. It would seem on the whole to be inimical to health, by wasting the saliva, so necessary to digestion, and thus weakening and diminishing the appetite. But that in particular situations, the stimulus of it may be moderately used with advantage, to promote the expulsion of the fæces, and to resist the influence of cold, by supporting vascular excitement. But in general, it is used too freely in the West Indies, to an extent, and duration, that brings on debility; and leaves the system exposed to the attack of disease. It is unfortunately introduced in the hours of drinking, when the taste is vitiated, and our sensations less perfect, and it is not un-

common in theſe circumſtances to ſee it continued for five or ſix hours. The conſequences may be eaſily imagined; languor and debility are experienced throughout next day; the appetite is deſtroyed and all vital energy diminiſhed. No ſituation can be imagined; more inviting to the invaſion of Fever. And I have ſeen many inſtances of an attack the enſuing day, after exceſſive ſmoking; to which no doubt exceſſive drinking had been conjoined.

Before I cloſe this ſection, I ſhall add a few obſervations on Flannel, as uſed now very generally by our troops in the Weſt Indies. The great uſe of flannel next the ſkin, has appeared to me, to be the maintenance of an artificial, but uniform climate, which prevented ſlight viciſſitudes of weather from affecting the ſoldier; when neceſſarily expoſed to it. Another uſe, which may be almoſt reduced to the former, is the abſorption of perſpiration, which in a linen ſhirt, would be applied cold to the body, and check the energy of the vaſcular ſyſtem. That flannel, may in ſome degree produce theſe effects I believe, but I imagine it has contributed

much

much less to the health of soldiers in the West Indies, than may be generally imagined. It appears to me, to debilitate, by exciting too much perspiration, and keeping it incessantly up; and to render the soldier less fit for the casualties of service, by creating a great artificial sensibility, alive to any considerable change. Besides, the soldier feels incumbered, hot, and uneasy in his exertions. But a worse consequence still, is apt to result from it; it may become the nursery of disease, by retaining the exhalations from the body, and having them again applied with the chance of absorption It is well known, that no attention can prevent the soldiers from wearing it too long; when it becomes a foul nursery of uncleanness. They cannot carry with them a sufficient number of these shirts to change as often as they ought; in fact, to be clean or comfortable, they ought in a warm climate to shift every day.

Instead of the flannel jackets or shirts, which are heavy, hot, and uneasy; I would recommend, what I think would answer the purpose much better, without any of the disadvantages mentioned; I mean cotton half shirts

ſhirts without ſleeves, in the manner worn in India under the denomination of banian ſhirts. Theſe would be eaſier carried about, the ſoldier could pack up a good number of them, as they do not fill up much room, by which means he could ſhift oftener, and keep himſelf more clean. Theſe would abſorb the perſpiration, and create leſs heat; they would preſerve the ſoldier from the danger of viciſſitude, and diſſipate his vigour leſs, than the flannel. He might always have a ſufficient number for the neceſſary change. During all my labours at St. Domingo, I never wore flannel; cotton ſhirts were my only protection, and I found them ſufficiently comfortable amidſt every viciſſitude.

I have now diſcuſſed almoſt every thing I judged of any importance to touch, relative to the health and preſervation of troops in the Weſt Indies; a ſubject of great importance, were my abilities equal to the weight of the diſcuſſion. I have fairly ſtated what I ſaw, and the concluſions I drew on the ſpot after much experience. I think it is the duty of every practitioner to come thus forward, and contribute to our ſtock of facts, and the maſs of opinions. Subjects appear in different lights to different phyſicians,

phyſicians, and in the variety of poſitions, we may at length gain the moſt diſtinct view of which they are capable. Before I come to the Appendix, which is only in proof, that the reaſoning I have employed has obtained tacitly in medicine, I ſhall ſubjoin a few remarks on BILIOUS COMPLAINTS; and what is called the PRICKLY HEAT; both very troubleſome diſeaſes.

OF BILIOUS COMPLAINTS.

NO ſubject on which, profeſſional men, or patients, ſpeak more inaccurately or looſely, than on what relates to the ſecretion, or production of Bile. Bile in warm climates, has the ſame general agency aſcribed to it, that in colder regions belongs alone to the nervous ſyſtem. Every complaint which is any how complex or inexplicable, is *bilious*. Diet is divided into what is bilious, and *not bilious*; as if it was inſtantly converted in the ſtomach itſelf, into this fluid. It may be proper then to take a ſhort view of this ſubject, ſo as to ſpeak on it with more accuracy. It is hardly neceſſary to premiſe, that the bile is

is not a liquor produced or generated in the ſtomach itſelf; at any time, or in any circumſtances; that diet of any kind, can only produce a larger quantity of this fluid, by acting on the liver and its veſſels; through its conſent or vicinity to the ſtomach. That its exceſs only can be a diſeaſe, as a certain quantity of it, is eſſential to the purpoſes of digeſtion. The liver is the ſeat of this ſecretion alone. It does not exiſt at all in the ſtomach, but is wholly derived from this gland. But from the neighbourhood of the ſtomach to this organ, whatever affects it will in ſome degree affect the liver alſo.

Bilious affections, or an increaſed flow of bile, occur either ſingly and diſtinct, or combined with other diſeaſes; I ſhall confine myſelf chiefly to thoſe accumulations of this ſecretion, which ariſe more eſpecially in conſequence of heat. The circulation of the blood in the liver, is carried on in a particular manner, a vein is made to perform a double office; and the movement of the blood is more ſlow, than perhaps in any other organ of the body. The general effect of heat, muſt be felt here, as in every other part of the ſyſtem, and as the circulation is uſually quickened,

ened, larger quantities of blood will paſs through the hepatic veſſels in a given time. Heat beſides, may ſtimulate the glandular ſtructure of the liver itſelf; it certainly imparts ſenſibility and irritability to every organ. There is reaſon to believe that moſt of the ſecretions, are increaſed by heat. The ſemen is more copious in warm climates, than in cold ones, this, and the irritability of the whole ſyſtem form one cauſe of the "Cupido Veneris," ſo remarkable in tropical regions. We are led to conclude, that heat itſelf, independent of other cauſes, operates powerfully in cauſing large ſecretions of bile. Becauſe ſuch ſecretions, are ſeldom obſerved in cold climates, and becauſe, when they do occur they ſeem to ariſe from cauſes, which operate in a ſimilar manner to heat, or rather produce heat itſelf. Thus the immoderate uſe of ardent ſpirits, debauches of wine, and violent exerciſe, are known to produce great ſecretions of bile. Whatever remains for a long time in the ſtomach, and reſiſts the proceſs of digeſtion, is apt to bring on a large ſecretion of this fluid. Of this kind are veal, lamb, eggs, ſalt meats, pickles, cheeſe, oils, and fat meats. Large quantities of porter, likewiſe increaſe the ſecretion of bile.

bile. Smoaking tobacco, or whatever ſtimulates the general ſyſtem, or more eſpecially the ſtomach; contributes to this ſecretion. Theſe, by making the fibres of the ſtomach act, either with unuſual vigour, or for an unuſual time; by ſtretching them, or by creating bulk, and preſſing on the liver; in all theſe ways, perhaps, contribute to an increaſed ſecretion.

Unuſual ſecretions of the biliary fluid, are emphatically called, "The Bile," and conſtitute often, a very troubleſome diſeaſe. Many ideal doctrines, and abſurd notions, are entertained on this ſubject; people imagine, that what they eat or ſwallow is converted into this fluid in the ſtomach. This opinion can only ariſe from want of anatomical knowledge. It has been ſhewn, that heat of itſelf is apt, and in fact does produce, a tendency to large ſecretions of bile, in warm climates. If heat produces this effect, by ſtimulating the vaſcular ſyſtem, and expanding it, how much more powerfully muſt it act, when aided by other cauſes, which increaſe irritability and ſenſibility; and which add to the circulating maſs, that muſt paſs through the liver; or ſolicit in that organ itſelf, a more vigorous action,

tion, by the ſympathy and contiguity of the ſtomach. Heat aſſiſted by theſe cauſes, produces enormous, and morbid ſecretions of bile. To the co-operating cauſes, may be added nauſea, one of the moſt powerful agents in the increaſe of bile. The cauſes which increaſe the ſecretion of bile from the liver, may be reduced to the following

HEAT,

Nauſea or vomiting, in whatever manner excited;
The immoderate uſe of ardent ſpirits or wine,
Violent exerciſe, eſpecially after meals,
Viſcid food, whether ſolid, or gelatinous;
Heavy meals, over diſtending the ſtomach.
Fat or greaſy food, oils, and acids.
Depreſſing affections of the mind.
A morbid ſenſibility in the liver itſelf;
Obſtruction in its veſſels.

To one or other of theſe cauſes, may be referred all the bilious caſes, I have ever ſeen. In ſome, ſeveral of theſe cauſes combine, and render the diſeaſe very obſtinate.

Having now enumerated the caufes, which produce large fecretions, let us attend to the fymptoms, which they commonly bring on in the fyftem.—The firft is, ufually, a general fenfe of wearinefs, with a flight aching in the bones; and a defire to recline, with a conftant inclination to fleep. The appetite is impaired, or becomes fuddenly voracious; but a preference is given to hot difhes, with large quantities of fpicery; fuch as currie.—When the patient has eat heartily, the fymptoms for a time difappear; and lead him to believe that he is well. The fkin becomes dry, and a peculiar uneafy heat, is felt in the palms of the hands and foles of the feet. The eyes are moved with uneafinefs and pain, a general languor prevails over the body. Perfpiration in general is much diminifhed, the face alone appears moift; now and then a fudden burft hot and difagreeable affects the hands. The tongue is covered with a deep yellow tinge, a head-ach comes on, the veffels of the admata, wear a flight yellowifh colour, fometimes deep; the patient is reftlefs, anxious and uneafy; fleep is turbulent, interrupted by irregular recollection and flight delirium; and the head-ach itfelf encompaffes more particularly the eyes and fockets. The

naufea

nausea is especially distressing in the morning, on the first attempt to get up; the pulse becomes very frequent and the heat intense. The belly is most frequently bound, though now and then a diarrhœa occurs, with a particular scalding sensation at stool. These symptoms continue for three or four days, till the bile is carried off; they are more or less violent in different constitutions, according to the nature and circumstances of each; and perhaps, the absolute or positive quantity of bile in the stomach. Bile even in its most natural state, and quantity, proves stimulant, and excites the action of the intestines and stomach; it must prove still more so when applied in large quantities, and when the stomach and intestines are in a more irritable state. Perhaps too, that these secretions made from larger supplies of blood, and in a state of acute sensibility in the organs, are in their own nature more stimulant and active. We know, that certain circumstances of the organs, render the secretions much more vigorous and stimulant, giving them entire new qualities. The saliva of the dog, is perfectly harmless in the healthy state of that animal; but when the secreting organs have undergone a change, in the madness of this faithful at-

tendant, this very ſaliva becomes one of the moſt vigorous and formidable poiſons. Again, the ſtate of the organs, being changed, the effect of any fluid on them, ſuppoſing it unaltered, will be very different. In the Remittent, the irritable ſtomach rejects its natural and mild juices; the ſemen paſſes through the flaccid penis, without any ſenſation; but when it is full of blood, and in a ſtate of temporary inflammation, the ſame fluid creates convulſive motions, and pleaſing ſenſations. If the bile then ſhould not be altered in its qualities, but increaſed in quantity, and applied to the ſtomach in a certain condition, it will produce morbid effects. But there is reaſon to be perſuaded, that no ſecretion is ever increaſed or diminiſhed, without being changed in its qualities, becauſe the condition of the ſecreting organ is changed; and therefore it is not improbable that ſomething unuſual is produced in the nature of the bile, when it is ſecreted in large quantities. All our organs are apt to be thrown into action by any unuſual ſtimulus, though apparently very mild. But if the condition of the ſtomach be more irritable, and the quantity or quality of the bile is altered, are we not to expect a very vigorous action of that organ; and in fact, we find

find it ſo—unfortunately too, this very action of the ſtomach to relieve itſelf, by its vicinity and conſent with the liver, affects this organ, and induces larger ſecretions. Natural vomiting however, affords a temporary relief; but as the bile is again flowing into the ſtomach, the head-ach and nauſea return; and the ſame proceſs is repeated ſeveral times before any permanent relief is obtained. We ſeldom attain repoſe, until the bowels are opened, either by the bile itſelf, which is not uncommon, or by means of medicines. This progeſs of bilious ſecretion, is what is termed in the Eaſt and Weſt Indies, a "Fit of the bile."

I have now given the general hiſtory of its ſymptoms; they are not ſo violent in moſt caſes, as I have deſcribed them, though I have ſeen all the tranſitions mentioned, occur in many caſes; and not unfrequently in myſelf. The languor, drowſineſs, heat in the hands, and loſs of appetite, generally warn the patient of the approaching diſeaſe; and if means were early uſed, it is probable, that no ſerious accumulation would ever happen.

To prevent morbid ſecretions of bile, the occaſional cauſes muſt be avoided. All food

or drink, which from their nature are apt to remain long in the ſtomach, ſhould be very ſparingly, or not at all uſed. The ſtomach ſhould never be over diſtended either with ſolids or fluids—for this very diſtention unqueſtionably creates bile. Suppers, ſmoaking, and ardent ſpirits, by throwing the ſtomach into action, favour the production of this fluid; and ſhould be carefully avoided. Very young gelatinous meat, reſiſts in a remarkable manner the action of the ſtomach, and therefore favours the increaſe of bile. Pork, veal, butter, cheeſe, ſmoaked beef, ſalt meats, reſiſt the powers of digeſtion in hot countries, and ſhould be avoided by thoſe, who are ſubject to biliary diſorders.—The diet ſhould be light and eaſy, compoſed of fully ripened fruits; and large portions of vegetables, with a ſmall quantity of animal food; ſuch as roaſt mutton or beef, or fowls.—White wines, eſpecially ſound madeira, from a long experience, I can venture to recommend in preference to the red; of theſe claret appears the leaſt hurtful. Beer and porter muſt be ſparingly uſed, as they ſeem in ſuch caſes to be very prejudicial. I have indeed ſeen caſes, where porter created a diarrhœa; in theſe peculiar circumſtances, it was an uſeful remedy. Riding, and cold bath-

ing,

ing, are likely means to prevent accumulations of bile. By attentions of this kind, the diseafe will feldom come on.

Let us now fee, what we are to hope from medicine, when there is an increafed fecretion of this fluid. Two plans offer themfelves, for the expulfion of bile ; viz. to employ cathartics, and remove it by ftool; or emetics, and remove it by vomiting. When bile has been largely accumulated in the ftomach, and produced reaching, it is fometimes neceffary to affift the procefs by emetic means. This is for immediate relief. But unlefs in thefe circumftances, or preffed by fevere headachs, I imagine vomiting an improper plan. So far as my obfervations extend, I have uniformly found, that vomiting and naufea, in whatever manner excited or conducted, feemed always to increafe, and in fact to produce bile. I have, therefore, claffed thefe as exciting caufes.

In fea ficknefs, and in vomiting caufed by medicines; a great quantity of bile is often brought up, which is commonly fuppofed, the caufe of the previous ficknefs, though it is much oftner the effect of the naufea and reaching. One

§ reafon

reaſon would however induce me in particular caſes, to employ full vomiting. I cannot conceive how ſuch an immenſe flow of bile could aſſail the ſtomach, conſidering the ſituation of the common biliary duct, unleſs an obſtruction either by ſpaſm, or ſome other means, exiſted in the duodenum; below the entry of the duct. By this means the entry of the bile is prevented, and it is regurgitated into the ſtomach. To remove this obſtruction and ſpaſm, vomiting may be ſometimes tried, and I think I have ſeen caſes where it ſeemed to be uſeful in this way. But after all, I think the beſt plan of treatment, when accumulations have happened, is by laxatives and purgatives. Salts I have found to evacuate the bilious ſecretion more copiouſly, and to leave the patient more free from all its ſymptoms, than any other medicine. The only objection to their uſe, ariſes from the nauſea they produce; this may in a great meaſure be obviated by diſſolving the ſalts in ſimple cinnamon water, which I have often ſucceſsfully practiſed. Laxatives, which teaze and irritate the ſtomach and bowels, do not ſeem calculated to evacuate the bile, for in fact, by their long continued irritation more is produced.

Perſpiration and urine, are means of carrying the bile away. I have ſeen inſtances, where the urine tinged linen of a pretty deep yellow, where no jaundice exiſted; and the perſpiration has often produced the ſame appearance in a ſlighter degree. In order to promote perſpiration, I have ſometimes preſcribed, a few grains of James's powders, joined to a laxative; which being given over night, produced the double effect of increaſing the diſcharge by the ſkin, and emptying the bowels. If the firſt doſe of ſalts does not entirely free the patient from all bilious ſymptoms, a ſecond doſe muſt be preſcribed; and the quantity of ſalts diminiſhed, ſo as to obviate the nauſea, which I have claſſed as an exciting cauſe.

Calomel, has been eſteemed in India a moſt ſucceſsful remedy, in all bilious complaints. I believe this opinion derived ſtrength, from the great utility of it in hepatic diſorders. Calomel, if given in a doſe ſufficient to purge, ſeldom performs this office without griping, and nauſea; and if given in ſmaller quantities, it does not anſwer the purpoſe, and is very apt to produce its peculiar effects on the conſtitution. But the fact is, that calomel is ſeldom

preſcribed

prescribed singly, it is commonly joined to cathartic extract or aloe, and aided by salts. It does not appear to me, to possess the amazing virtue ascribed to it in India; though I do not deny, that I have sometimes found it convenient and useful. The ease with which it can be taken in pills, has no doubt added to the character of this medicine, as the nausea which is sometimes the cause, and sometimes the effect of bile, renders it difficult to administer any bulky or disagreeable composition. Calomel pills, are certainly less nauseous and more commodious than salts; and the quantity may be so managed, as not to cause any great perturbation; but I am of opinion it never clears the stomach or intestines so effectually as salts. Many practitioners of India are of the same opinion. Their common method is to order a calomel pill at night, and a small dose of salts in the morning, and I believe this to be good practice. The calomel pill produces in the stomach and intestines, the purgative commotion; after which a very small dose of salts will procure a very free evacuation. Such evacuations must be repeated, till the patient is relieved from the symptoms we have already mentioned; till the languor and drowsiness are vanished. But calomel can only operate as a purgative,

purgative, with the disadvantage of having a rough operation, and of producing at times a salivation, a dangerous accident in warm climates.

Much may be expected, from attention to the occasional and exciting causes in preventing a fit of the bile. General temperance, and moderate exercise, will greatly contribute to this end. When the smallest tendency, or the least symptom appears, the patient ought to take a little castor oil, an excellent and innocent laxative, or a small dose of salts, and for some days adopt a lower diet, and less exercise. If there is an habitual tendency to the production of bile, from the effect of heat alone, it requires minute attention to diet, and every circumstance already enumeratd, which conduces to excite the disease. Gentle riding and cold bathing, I have found in such circumstances to be highly useful.

The bilious habit is very difficult to cure, once it has established itself. I have reason to believe, that a slight mercurial course would be very useful in diminishing the tendency to large secretions in the liver. In several cases, in the East and West Indies, where the bilious habit

habit prevailed, I have had occaſion to uſe mercury, for other diſeaſes, and remarked how ſoon the ſyſtem was fairly loaded or affected; that the bilious ſymptoms abated and diſappeared. This may be perhaps attributed to other circumſtances, ſuch as changes in the mode of living; but theſe were not ſo ſudden as to produce this revolution in the habit. Future experience muſt decide, and enable us to determine it fully. Bile appears more or leſs combined, with all the fevers of India, and with the fevers of the Weſt Indies; and I believe with the fevers of all warm climates; it is an attendant on our own autumnal fevers, and in various ſhapes gives riſe to diſorders of the ſtomach and bowels.

Savages, and rude nations, are in a great meaſure exempted from this diſeaſe, particularly thoſe, whoſe religious inſtitutions forbid wine and animal food; from this we are neceſſarily led to conclude, that our refinement and luxury of diet, are the cauſes of our being ſo much troubled with this diſeaſe. It renders all the fevers in which it makes its appearance, more complex; but from the enumeration of its own particular ſymptoms, many appearances may be explained, which render

render the type of these diseases complicated. No disease is so often mentioned to the practitioner of a hot climate, as the bile; the inactivity and languor, which it produces, the loss of appetite, and dislike to all exertion, are no doubt very serious grounds of complaint. But unless the patient possesses more than ordinary fortitude and perseverance, in a plan of abstinence and restriction, there can be little done, without the assistance of an European climate; that is, without getting from the influence of a cause perpetually acting on the body. For medicines can afford temporary relief only, if the secretion is caused by the heat of the climate. Medicines are temporary powers, which cannot be used very often without danger; and they are opposed to the action of a power, which never ceases to operate, and always acts, with more or less vigour. In cases of this kind, where attention to diet, and the other means fail, and where the disease seems to result from the influence of heat alone, the patient ought to seek colder regions, as his only resource. Here he will in all probability recover, unless great obstructions have taken place. It may be a good general rule, to use purgative mineral waters, and to take a good deal of exercise on horse-

 back

back or an open carriage; but if ſeſe fail, recourſe muſt be had to mercury. When the influence of a cold climate itſelf, and the uſe of mineral waters, do not ſucceed very ſoon after the patient's arrival, there is reaſon to ſuſpect obſtructions. In ordinary caſes, the change of climate alone is ſufficient to produce every thing that is neceſſary.

A great variety of ridiculous methods are uſed in warm climates, to prevent, or what they term, to cut the bile, in which conſiderable confidence is placed; but which, of themſelves, have never appeared to me to poſſeſs any power. I have known much confidence placed in ſwallowing a raw egg, beat up, ſhell and all, in a mortar, and taken very early. This preparation might operate as a laxative, and certainly promote the evacuation of bile; but in any other mode, I cannot conceive it would have any effect whatever. If it remained in the ſtomach for any time, from the viſcid nature of the white part, I ſhould be inclined to ſuppoſe, that inſtead of preventing, it would, by ſupporting an irritation in the ſtomach, cauſe a larger ſecretion of bile. At any rate, I cannot perceive any manner, in which it could be remarkably antibilious. The ſhell

has

has too little calcarious ſubſtance to be of any great uſe, as an abſorbent, and the contents of it, poſſeſs no chemical activity, to form new combinations or neutralize the bile. It is however a popular medicine, and as it does not do any perceivable harm, and flatters the hopes of the patient, I never forbade it.

Many ſuppoſe, that popular remedies of this kind have their origin, in a diſcovery of real virtue in them: this may be ſometimes the caſe, as accident unqueſtionably has put us in poſſeſſion of valuable remedies; but in general, popular remedies are the offspring of ſuperſtition, or the cunning of quacks. It is however dangerous for the phyſician to interfere with them, as his oppoſition is generally aſcribed to ungenerous motives.

Another preventative of ſome reputation, is the ſwallowing of an orange, immediately on getting out of bed; this is a remedy much extolled. I confeſs, I hold the ſame opinion of its powers, with the preceding; it is believed, that its operation is laxative, and in this way, it may have a good effect.

But of all the remedies which are uſed to "cut the bile," ſpruce beer has been held in

the higheſt eſtimation, and I have heard many great drinkers of it declare, that it was impoſſible to be bilious, if only a ſufficient quantity of it was taken. I have tried this medicine myſelf, and taken a bottle of it, the moment I got out of bed; after which I rode, and I certainly found it, a very pleaſant and briſk laxative. With reſpect to the orange, I never eat one, when I had reaſon to ſuſpect the preſence of bile in my ſtomach, without feeling myſelf inſtantly ſick, and inclined to vomit; I do not know, whether others have experienced ſimilar effects.

Water creſſes, and lime water, have had their ſhare of reputation, as preventatives of bile; I cannot ſpeak of either, having never tried them. Water creſſes muſt however be a feeble means, and can only act, as a part of a ſyſtem of diet. Of lime water, I ſhould be inclined to think more favourably. It may ſtrengthen the fibres, of the ſtomach, and diminiſh morbid irritability, and thus contribute to diminiſh the ſecretions from the liver, by leſſening all irritation in its neighbourhood. No queſtions are more frequently put to phyſicians, and none more embarraſſing; than whether this or that diſh is bilious? Theſe queſtions

questions are usually asked at table, where there is not much room for discussion. An answer must be given, and this answer goes abroad as a medical aphorism. It is a pity, that they do not recollect, that what may prove hurtful and bilious, in one stomach, may not have any bad effect whatever in another; and that it is excess in general, which renders any article of diet hurtful. But they believe, that certain substances dissolve themselves into bile in the stomach, as ices melt into their elements. It is right to inform them, that nothing of this kind happens, and that bile comes from the liver alone, without being formed in the stomach; from which however it may be derived in larger quantities, by distending the stomach with improper or indigestible food.

I cannot take my leave of Popular Remedies, without mentioning that spruce beer, acquired at one period great fame in St. Domingo as a sovereign medicine in the Yellow Fever. From the beginning, I gave no credit to the idle reports circulated in its favour. I could not reconcile to myself, that spruce beer, which had no perceptible action on the system, but as a laxative, could possibly change the course of so powerful a disease as the Remittent

of St. Domingo. Overpowered however by reported inſtances of ſucceſs, and the converſation of every body; it became requiſite to give it a trial. I accordingly permitted ſome ſick ſailors, in various ſtages of the Remittent, to uſe this new remedy very freely. In ſome, it produced vomiting and ſickneſs; but in general, had its common effect as a laxative. But in no one inſtance whatever, did it appear in the leaſt degree to affect the courſe of the fever. Indeed our ſoldiers, could not have periſhed, if fortunately it had poſſeſſed any virtues, for they very freely indulged in this pleaſant beverage. Mr. WEIR made trials of it at the Mole, with the ſame liberal ſpirit, that always attends him. I had no opportunity of hearing the reſult.

The perſon who firſt promulgated the virtues of ſpruce beer, was one SMITH, the maſter of an American veſſel. He maintained that by its uſe only, he had preſerved his ſhip's company; and communicated his knowledge and doctrines, to the maſters of ſome Engliſh tranſports, who immediately became Pupils and Practitioners. The ſyſtem was ſimple and pleaſant, and peculiarly adapted to the palate of ſailors. It accordingly ſpread with

great

great rapidity among the ſhipping, who converted diſeaſe, into a ſocial intercourſe. But unfortunately numbers periſhed, either from too much or too little of the preſcription.— SMITH however, who in the eagerneſs of ſyſtem had not loſt ſight of his intereſt, accompliſhed pretty fully his views in practice. Beſides a conſiderable reputation, for inſpired knowledge, and being the founder of a new ſect of phyſicians, he enjoyed the ſatisfaction of ſelling a conſiderable cargo of eſſence of ſpruce; which his new pupils greedily purchaſed at his own price. This impoſture was ingenious, and has the advantage of being leſs prejudicial, than many other impoſitions on the Public.

I ſhall now ſpeak a few words on what is termed,

THE PRICKLY HEAT.

The PRICKLY HEAT has been ſo termed from a ſenſation which attends this eruption, as if the ſkin was pricked in the ſeveral points which it occupies. The prickly heat begins to make its appearance how ſoon the perſpi-

ration has become general and conſtant, and ſpreads itſelf all over the body, beginning where the perſpiration is moſt profuſe. From the pricking ſenſation, which attends it, and an uneaſy itching, it becomes at times highly troubleſome, and a real diſeaſe.—There is a kind of ſenſibility ſpread over the whole ſkin, ſo that it will hardly bear the touch of the ſofteſt ſhirt, and renders every movement of the body painful and tormenting; but eſpecially ſo, before the commencement of a free perſpiration; juſt as the body attains full warmth.

This eruption, by the inhabitants of the Eaſt and Weſt Indies, is reckoned the beſt indication of a high and ſecure ſtate of health. They believe, that ſomething very injurious to the habit and conſtitution is now thrown on the ſurface, which had previouſly lurked in the inmoſt ſyſtem, and was inimical to the principles of life. They conſider no one in a ſtate of any ſecurity, until this eruption has made its full appearance; when they are perſuaded, he cannot ſuffer from any effect, the climate can produce.

The Prickly Heat, is undoubtedly a promiſing and ſalutary appearance, as it is the effect

of

of an eſtabliſhed and powerful perſpiration, which is certainly a diſcharge of the higheſt importance in a warm climate. It is indeed ſeldom, that any one, falls into a ſtate of illneſs, or yields to the Remittent, where the perſpiration has been free, copious, and eſtabliſhed. The great maſs of fluids, is kept in a due ſtate of coolneſs, the force of the blood is directed towards the ſurface, and a proportion of great importance, is eſtabliſhed between the bulk and expanſion of the fluids, and their containing veſſels. It will be eaſily conceived, that if the ſkin becomes locked, and impervious, on the admiſſion of morbid particles, that a chief ſource of eſcape, is barred againſt them; through which in other ſituations they might have paſſed innoxious.

The Prickly Heat then, as a ſign of free and copious perſpiration, is a very ſalutary and important eruption. But it is not critical, or does it conſiſt of any injurious matter thrown on the ſurface of the body. For, we firſt obſerve, that it ariſes with the commencement of perſpiration, and is increaſed or diminiſhed with the cauſes, which increaſe or diminiſh perſpiration itſelf. Every one muſt have remarked in a warm climate; that during the

coolneſs of the morning, there is very little of this eruption viſible, nor is the ſkin painful or uneaſy; but when exerciſe, or the natural progreſs of the day, have directed the circulation more powerfully to the ſurface; a pricking painful ſenſation immediately commences, the eruption begins as it were to emerge from the ſkin, and becomes efflorescent; until the actual commencement of perſpiration gives it, its full and complete appearance. It is obſervable too, that during the land winds, which lock the ſkin very completely, and render the body hot and uneaſy, the prickly heat is hardly apparent. It is not unuſual on theſe occaſions, to drink warm diluents, to reſtore perſpiration; the moment it begins to make its appearance, the prickly heat begins alſo, and gives the firſt warning of its approach. From this connection, and ſubſequent appearance, uniformly preſent, between the perſpiration and prickly heat, the one always preceding the other, I think they may be claſſed in the relation of cauſe and effect. The prickly heat never made its appearance in any perſon, not ſubject to very copious perſpiration, and copious perſpiration never continued for any time, without producing the prickly heat.

The

The causes which increase or diminish perspiration, likewise increase or diminish the prickly heat. But besides these relations, which mark them as cause and effect, we shall be able to account for the phænomenon, on this reasoning better than any other.

It will be difficult to show, that any matter injurious to the constitution really existed in the system, previous to the appearance of the prickly heat. When such matter is any how introduced, it is seldom thrown on the surface, without the intervention of a febrile stage, and after a certain progress, retires or scales off, leaving the body perfectly free. But nothing of this kind is observable in the production or appearance of prickly heat; it comes on avowedly in a state of health, connected with a phænomenon the most salutary that can happen; and without the presence or assistance of any febrile commotion. It has no stated or precise period of existence, and does not retire or scale off at any given time; but maintains its appearance, as long as the perspiration is free and uniform; as long as the causes which produce it operate. When these cease, or are diminished, the prickly heat disappears, or is considerably lessened.

 Let

Let us attend to the manner, in which it would ſeem to be produced by the action of perſpiration in the veſſels of the ſkin. It is produced in the ſame manner, with eruptions which appear on the ſurface, in conſequence of applying plaiſters, ſuch as Burgundy pitch, or the emplaſtrum roborans, that is, by exciting great and unuſual action in the veſſels, and ſupporting a continual perſpiration. It is not improbable, that the perſpiration in a warm climate is ſomewhat more acrid than in colder countries; it will be therefore more apt to irritate the mouths of the exhaling veſſels on the ſurface, and at length to erode them, ſo as to produce the prickly heat. This eruption would ſeem to be produced then, in the following manner. The exhaling veſſels on the ſurface, by the general direction of the circulation towards them, are made more irritable, which is ſtill more increaſed by their perpetual action in pouring out the perſpiration, which is itſelf an acrid ſaline matter, by which their orifices are eroded. Theſe eroſions pour out a lymphatic fluid, which incruſting on the ſkin, forms the eruption. The pricking ſenſation previous to the actual commencement of perſpiration, would ſeem owing to the irritability of the veſſels on the ſurface,

by which they are thrown into unuſual action on the firſt approach of an uncommon quantity of blood towards them.

From this account of the Prickly Heat, which I believe to be juſt, from all I could ever obſerve, it is evident, that there is nothing critical or dangerous in it; that it is not matter thrown out on the ſurface, to relieve the body; and that it is in no other way ſalutary, than as it indicates, a free and copious perſpiration. From this account, it will alſo be evident, that there can be no danger from the retropulſion, or rather the retiring of prickly heat, except what may ariſe from the cauſe that checked perſpiration. Many abſurd notions have been entertained on this ſubject, which have really proved prejudicial to health. It has been very generally ſuppoſed, that the matter of prickly heat was highly injurious, and therefore, that the retiring of it into the body was extremely dangerous. It was remarked, that when it ſuddenly retired or vaniſhed from the ſurface of the body, that diſeaſe uſually enſued, and the danger of it was aſcribed to the matter of prickly heat again entering the circulation. The people who thus reaſon do not recollect, that

that whatever obſtructs perſpiration, or ſtops it entirely, whether cold, or the effects of fever, muſt alſo put an end to the prickly heat, which is only an effect of perſpiration. The danger then, does not ariſe from the retropulſion of prickly heat, but from what cauſed the obſtruction of perſpiration, and perhaps from the obſtruction itſelf. From falſe reaſoning on this ſubject, many men are made extremely unhappy, who believe, that the leaſt diminution of the prickly heat is dangerous, and attribute to this eruption every diſeaſe, or unpleaſant ſenſation. Their life, is a cautious regimen, and their feelings, are alive to every change. I have known many perſons, fall into a dangerous ſtate of relaxation, becauſe they would not continue the cold bath; for fear of beating in the prickly heat. Theories of this kind are dangerous, when they impede or deſtroy ſalutary habits.

Before I had an opportunity of attending to the prickly heat, I was biaſſed by the general prejudice, and avoided every thing, that I thought tended to repel it. I was afraid of the cold bath, and avoided it. On my arrival however in India, I became convinced, that the opinions entertained relative

to prickly heat were falſe and abſurd. I was determined to try an experiment on myſelf, and whilſt my body was thickly encruſted with the prickly heat; I reſolved to bathe. There was a large Tank of water in the neighbourhood of Diamond Harbour, and I choſe the morning, as being more cool and pleaſant. I walked to it, without heating myſelf, and in the preſence of a number of gentlemen, who thought I was committing a very deſperate action, plunged into the water, where I amuſed myſelf for twenty minutes. I found no inconvenience from this practice, and repeated it every other morning, ſometimes, in the middle of the day, and often in the evening. The prickly heat was diminiſhed, becauſe the perſpiration received a temporary check, but with the return of that diſcharge it returned alſo. But neither the ſuſpenſion of perſpiration, during the time of bathing, nor the conſequent abſence of the prickly heat, which loſt its effloreſcence, and ſeemed to retire, created the leaſt degree of ill health; on the contrary, I found the cold bath attended with its uſual effects of increaſing the vigour and hilarity of the ſyſtem. I could not for a long time prevail on any of the officers to follow my example, from

from the dread of bad conſequences. At length the ſeamen began to follow me, and ventured in. When they found it was not attended with any bad conſequence; for all of them were covered over with prickly heat; they plunged in without reſerve, and often, when in a ſtate of perſpiration, without ever feeling the leaſt inconvenience. Such was the effect of prejudice, that if I had not in my own perſon, tried the experiment; I ſhould probably continue to believe, that the prickly heat was a critical diſcharge. The effect of ſuch prejudices is often dangerous; we are deprived of a very ſalutary practice, and our views of diſeaſe are perverted: Thus a perſon, who believes, that the ſtriking in, as it is termed, of the prickly heat, is attended with bad conſequences, nay with imminent danger, lives in a ſtate of perpetual anxiety; and in a warm climate, would avoid bathing; the moſt ſalutary of all exerciſe. And when in a ſtate of illneſs, if the prickly heat retires, inſtead of attending to more important ſymptoms, the chief attention would be directed to reſtore this eruption, which has no connection with the diſeaſe, and is ſuppreſſed only in conſequence of the diminution of perſpiration,

perſpiration, but in no other way adds to, or forms the diſorder of the patient.

If I am right in affirming that the prickly heat is merely an effect of a very copious and continued perſpiration; and depends entirely on that ſtate, it will follow, that the precautions uſually taken to guard againſt its retiring are uſeleſs; and that when it does retire, the danger does not ariſe from that circumſtance, but from the action of a cauſe diminiſhing perſpiration.

The prickly heat however, at times, riſes to a height which conſtitutes diſeaſe. The patient, from the extreme irritation, is made uneaſy, and ſome degree of feveriſhneſs is induced; in this ſituation, the phyſician is ſometimes called for, and immediate relief expected. It will be evident, that no immediate relief can be reaſonably expected; becauſe the cure muſt depend on diminiſhing the perſpiration, and averting from the ſurface the direction and force of the circulation. This cannot be done ſuddenly; ſome relief may be given by diminiſhing the cloathing; by laying aſide flannel, and ſubſtituting cotton ſhirts; by avoiding diluent drinks, violent exerciſe,

ercife, fmoking, and heated rooms, or meffes. But where the patient is very uneafy, and efpecially if he is full and plethoric; to the means already recommended, a blood-letting ought to be added, and afterwards feveral dofes of lenient phyfic. The patient fhould live on a lower diet, and take little exercife; he ought to drink lefs, and avoid every fituation, where he may be expofed to heat. After premifing thefe means, he fhould be directed to the cold bath, which will fo moderate it as to become very tolerable; if it is not entirely banifhed. But no degree of it forms any objection, to cold bathing among the troops; it is not attended with the fmalleft danger, and is a means of increafing the health and fpirits of the foldiers. I have feen this prejudice, prevent a number of men from bathing, in fituations, where they might have enjoyed this falutary and delightful luxury.

It may be ufeful too, to imprefs on the minds of practitioners and patients, this general truth; that no difeafe of any importance, ever had its origin from the ftriking in or retiring of the prickly heat. But that in cafes, where difeafe has occurred, and where the

the prickly heat retired; this has happened in conſequence of a cauſe, which deranged the ſyſtem in general, and diminiſhed perſpiration. We are therefore, not to look to the retiring of the prickly heat in any important light; it is one of the ſymptoms, but not a cauſe of diſeaſe; and we are not to loſe time, in directing our efforts to reſtore this eruption, which will of itſelf return with perſpiration. We are to attend to more important circumſtances, and to direct our views to the general effects of the morbid cauſe, inſtead of combating one individual effect. In this manner danger may be prevented, and the diſeaſe brought to a happy termination. But whilſt we were perſuaded, that the prickly heat poſſeſſed ſome noxious quality, deſtructive of life; our efforts were directed to throw it again on the ſurface. For this purpoſe, heating means were employed, until the original diſeaſe was either exaſperated into a more dangerous form, or fully eſtabliſhed itſelf in the ſyſtem.

I have remarked, that it was a very rare occurrence among the French, whoſe habits are very different from ours. It is ſeldom or never ſeen, among the negroes, or the natives

of the Eaſt Indies. Our ſyſtems are more heated, from our mode of life, and our perſpiration more ſaline and acrid, than that of the French. They hardly know the prickly heat, whilſt few of us eſcape it. It is however of conſequence, to view it in its proper light, and not to ſuffer ourſelves to be miſled by an improper prejudice. One circumſtance has chiefly contributed, to erroneous opinion relative to the prickly heat.—It was obſerved, on the application of cold to the body, that the prickly heat diſappeared, and that ſome unpleaſant ſymptoms occurred, which were attributed to the departure of this eruption. It was further remarked, that warm bathing, which uſually brought back the eruption, afforded great relief, and removed the unpleaſant ſenſation of the patient. The whole of the diſeaſe was of courſe attributed to the retiring of the prickly heat, and the recovery to its reſtoration. Now, the fact is, that cold, by impeding perſpiration, and ſhutting up the ſkin, had produced the degree of illneſs which exiſted, and that this exhalation being for a time much diminiſhed, or altogether abſent; was the cauſe of the departure of prickly heat, and the warm bath, by relaxing the contraction on the ſurface, and reſtoring perſpiration, reſtored

alſo the eruption, and removed the diſeaſe. But the whole of the diſeaſe conſiſted in a ſimple obſtruction of the ſkin, and a diminution of perſpiration, the departure of the prickly heat, being merely an accident, which had no ſhare in producing ſymptoms, being itſelf an effect of circumſtances, which had previouſly occurred.——

Having now finiſhed, all the obſervations I had to offer, on Diſeaſes in the Weſt Indies, I ſhall proceed to the APPENDIX, and endeavour to ſhow, that the reaſoning I have employed on the treatment of Fever, has influenced phyſicians tacitly in the cure of moſt diſeaſes.—

APPENDIX.

Reasoning of the Author confirmed by Practice,

In INTERMITTENTS;
FEVERS;
ULCERS;
LUES VENEREA;
SMALL-POX.

IN the beginning of this book, I remarked that the practice, by definite indication, in Fevers, was not to be trusted, until greater light was thrown on the Proximate Cause: that our attempts must be directed, to effect speedy and powerful changes, to alter the whole condition of the body, to introduce new movements, and to impress on the system another mode of action. Let us examine with candour the treatment of diseases, and see how far this practice, though not acknowledged in

terms, has prevailed.—And firſt let us proceed to

INTERMITTENTS.

It will probably for ever remain a ſecret, how theſe aſſume their peculiar and diſtinguiſhing types. We cannot form any theory relative to this point, that can afford the leaſt ſatisfaction to a juſt thinker. Leaving this inveſtigation, to ſome fortunate genius; I ſhall attend to the different methods of cure, which have occaſionally proved ſucceſsful.

When we attempt to preſcribe in Intermittents, from a knowledge of their proximate cauſe, we find ourſelves very ſoon in obſcurity. The remote cauſes, are indeed, pretty well aſcertained, and the ſituations in which Intermittents uſually ariſe, are likewiſe well-known. But of the preciſe condition, which conſtitutes the proximate cauſe, we are entirely ignorant. From a difference in the condition of the ſyſtem, or the modification in the remote cauſes, marſh miaſmata ſometimes create Intermittents, ſometimes Remittents or Dyſentery. We remark, that

an expoſure to theſe miaſmata, after a certain period, produces a peculiar mode of acting in the ſyſtem, which brings on cold ſhivering, heat and ſweating; and diſpoſes theſe phænomena to diſappear and return, in a certain periodical manner. It is acknowledged, that the proximate cauſe is unknown, but we know, that its mode of acting muſt be changed, or itſelf baniſhed, before any thing can be done for the effectual relief of the patient.

When we obſerve one cauſe, producing various effects in different bodies, it follows, that the cauſe itſelf is modified; or the bodies to which it is applied, determine its action in a particular manner. It is remarkable, that a contagion, evidently the ſame, when applied to different bodies, produces effects ſo very various in each. It is not therefore improbable, that the types of Remittents and Intermittents, reſult from the habit; and not from any ſpecific variety in the morbific miaſmata. It were much to be wiſhed, that we could aſcertain the preciſe ſtate, which determines the type; but this I fear is not to be attained. Our preſcriptions in Intermittents, are founded

chiefly on experience, gained from caſual obſervation, or accident; for we cannot found indications, on a knowledge of the proximate cauſe. It is true, that phyſicians have ſuppoſed it to conſiſt chiefly, in an atonic ſtate of the extreme veſſels, and have aſcribed the good effects of bark to its tonic powers. But it is not by any means evident, that this atonic ſtate exiſts in all caſes, nor is it at all clear, that the bark effects a cure, by communicating tone. If bark operated in this manner, other tonics would produce equal good effects, in proportion to their powers; but this does not happen. Beſides, it will preſently appear, that other means effect cures in Intermittents, which do not in fact poſſeſs any tonic powers. The truth ſeems to be, that a ſecret change is produced in the morbid action, which at laſt ceaſes, and the uſual movements are reſtored to the ſyſtem. We direct our views to create a change, in the general action of the ſyſtem, ſo as to diſpoſſeſs the peculiar modes of the morbid action. Such a change, Peruvian bark is known frequently to effect, and experience ſupports its uſe. But other means have been alſo employed

with ſucceſs, in changing the morbid action, and reſtoring health to the ſyſtem. Some of theſe prevent only the return of one paroxyſm, whilſt others are attended with more permanent benefit. An emetic given at the time a paroxyſm is approaching, ſometimes entirely prevents it; and the ingenious LIND, has ſhortened the duration of a fit, by the uſe of opium. Now theſe means, ſeparately examined, are in themſelves different; and produce different effects. They are however calculated to effect a change, which baniſhes the morbid action.—

If it be ſaid, that bark cures Intermittents by giving tone; we may remark, that the operation of emetics is not tonic, nor has laudanum, any ſtriking power of this kind. When ſpiders, or other diſguſting animals, are given to aguiſh patients, the practice is ſtrictly founded on the plan of changing morbid action without definite indication. Horror is excited, and the ſyſtem is under the influence of a powerful change, which ſuperſedes the agency of the morbid cauſe. I cannot in any other manner, account for the good effects, which have ſometimes ariſen from ſwallowing ſuch animals. To the ſame account may be placed the benefit of

of dashing water suddenly on the patient; which has often shortened the duration, and meliorated the whole of a paroxysm. Exercise, and the effects of interesting intelligence, fall into the same class. We cannot account for their effects in any other manner.

Steel, is on many occasions a powerful and useful tonic; but it possesses little virtue, in curing Intermittents. The kind of change it produces, does not seem calculated to overcome the morbid action; an argument, that something more than want of tone constitutes the proximate cause.

I have in numerous instances cured Intermittents, in India, and at sea, by the use of calomel, after bark had entirely failed. Now mercury, has never been supposed to give or to produce tone; on the contrary, its action is commonly attended with debility; unless in cases, where it removes a more powerful enemy to the constitution than itself.— Thus, it restores vigour, to constitutions worn out by *lues venerea*, or weakened by the violence of hepatitis. It acts however in the cure of Intermittents, not by any

any ſpecific power, directed to any individual effect of the proximate cauſe; but by cauſing a change, in the general movements of the habit, the morbid action is at length baniſhed.

A ſolution of arſenic, has been employed very ſucceſsfully in the treatment of Intermittents; and ſeems to produce its effects in a ſimilar manner. And it would appear, that bark itſelf, as Dr. JACKSON remarks, produces its effects, not by any ſpecific power, by which it would in all caſes act ſucceſsfully, but by introducing gradually into the habit counter movements. Methods the moſt various, have ſometimes produced the moſt happy effects, ſo that we muſt conclude, that theſe aroſe, merely from inducing changes.

In the remarks now offered on the manner of treating Intermittents, it has been obſerved, that various plans frequently ſucceed in the prevention of paroxyſms, which do not appear to be directly calculated, to obviate the proximate cauſe. The indications are not formed on any definite knowledge of this ſubject. We merely effect a

cure

cure by producing a change. Bark, which frequently ſucceeds, is by no means a remedy always to be relied on. I have met with many agues of the tertian and quotidian periods, which reſiſted the uſe of bark in the largeſt doſes, and after a long continued uſe. The Intermittents of Bengal, particularly furniſhed theſe inſtances; thoſe of China, yielded to the common treatment. In caſes of this kind, even where great debility prevailed, I uſed mercury, and was never diſappointed in my views. Soon after the patient commenced this courſe, the paroxyſms became more mild, continued for a ſhorter time, and in all reſpects changed their violent procedure. That is, there was ſomething in the action of the proximate cauſe, which the feeble effects of the bark could not baniſh, but which gave way to the more potent operation of mercury.

The native practitioners in India, from a kind of inſtinctive knowledge, for they are very illiterate, purſue the ſcheme of introducing changes in the ſyſtem. When at Calcutta, I happened to converſe with one of them, on their method of curing the Intermittent, which not unfrequently attacked the

the inhabitants. He informed me, that they purſued a variety of ſchemes; that they ſometimes poured buckets of cold water, on the patient, during the cold fit, and afterwards wrapped him up in warm coverings in bed; by this means he alleged, that the cold fit was ſhortened, and the hot brought on. He ſaid that the ſweat flowed more freely, and that on the whole, the paroxyſms were ſhorter and milder from this practice. He ſhowed me ſome powders, which had an aromatic ſmell like caſſia, which he had prepared from dried herbs; but he would not produce the herbs themſelves, nor inform me, where to procure them. He ſaid, they effected cures in a very ſhort time, among their own people; but that the blood of Europeans, being more hot and inflammatory, required more powerful medicines. He indeed produced a nut, of an olive colour, covered with an elaſtic, flexible huſk, about the ſize of an almond, it contained a bitter taſted kernel, with a ſmall degree of aromatic flavour. The method of uſing this medicine, according to him, was to bruiſe the kernel with a few grains of common pepper, and forming the maſs into pills, to adminiſter them frequently till the

the paroxyſms, at length gave way. He called the nut, kút ka léeja, or lota kâ pūl. I ſupplied myſelf with large quantities of the nut, and tried it, in many caſes, with excellent effect, but could not truſt the cure entirely to their uſe. It was a powerful and good bitter, it warmed the patient; and created a grateful and pleaſing ſenſation in the ſtomach.

From what has been ſaid on the variety of methods, in which Intermittents may be cured, it is evident, we do not practiſe on any definite indication; we either try changes, which experience has already ſanctioned, or ſeize an analogy; and exhibit ſuch remedies, as in other caſes are known to produce powerful effects. The treatment of continued fevers, is founded on the ſame principles.

Of CONTINUED FEVERS.

CONTINUED FEVERS have been an opprobrium to phyſicians in all the ages of medicine. The Ancients have thrown little light on the ſubject, nor have the Moderns been much more ſucceſsful. Ingenious ſyſtems

ſyſtems have been offered, and rejected.— Theory, which though ſpeculative, often influences the phyſician, ſeldom had vigour enough to change practice, becauſe it was commonly rather an effuſion of ingenuity, than an induction from juſt reaſoning. On many occaſions, theory and practice have been at variance; and in general there was little union, between ſpeculation and experience. Cures occurred under the moſt oppoſite modes of treatment, and the confidence, which this caſual ſucceſs inſpired gave currency to particular remedies.

The Ancients, in their cure of Fevers, for a long period, continued the ſtrenuous imitators of their predeceſſors, without aſpiring to truth or novelty. The remote cauſes of continued fevers, are undoubtedly obſcure; but above all, the proximate cauſe, or what more immediately exhibits the morbid phænomena, has eluded every reſearch. It is uſeleſs to repeat the various conjectures which at different periods occupied the medical world; it is ſufficient to remark, that none of them have ever led to a deciſive, or certain plan of cure.

Fevers,

Fevers, of the continued form, aſſume, at times, the type of Intermittents; that is, there appears a certain degree of abatement in the ſymptoms, at ſtated times; but they again reſume their wonted courſe, in periods correſponding with the returns of tertian paroxyſms. This is the moſt frequent type at leaſt. But whether this depends, on ſomething in the conſtitution, which determines the return of the fever, or on the operation of powerful cauſes, is not known. But there are continued fevers, in which no perceptible abatement is evident, and they run through their whole courſe, without ſuffering any viſible or apparent change in the ſeverity of the ſymptoms. The operation of the proximate cauſe, in continued fevers, is ſteady and powerful; and ſeems as yet, to have bid defiance, to all the ſuggeſtions of theory, or the dreams of credulity. On a ſurvey of the practice, which has obtained in continued fevers, through all the æras of medicine; I confeſs, that in my mind, it has been uniformly too feeble. The practice of the Indians in America, appears to me to poſſeſs more vigour, and to be more likely to do good, than all the ſyſtems as yet promulgated by the ſchools of phyſic

physic. Whatever the proximate cause may be, which produces the morbid action, and exhibits the phænomena of fever, it seems to be tenacious, and to keep possession with wonderful perseverance. Such a cause is not easily moved; powers which produce slight changes are not likely to affect it; bold and decisive practice must be adopted before we can do any thing; and as we cannot pitch on the weak part, for the play of our engines, let the whole system be stormed at once, and the disease banished by a powerful invasion. From the want of this energy in practice, and the influence of idle theories, the treatment of fever, has been feebly conducted. Nor has it ever been clearly proved; although affirmed by credulous or dishonest practitioners, that the course of a fever, was really cut short by these tame operations. It is at least probable, that the proximate causes of disease are only to be removed, by the introduction of counter movements, which effect a general difference, in the action of the whole system, or its parts. Now we see, that the practice in fever for a period of two thousand years, had not introduced changes sufficiently powerful, to remove with certainty the opera-

tions of the proximate caufe, The morbid action, we muft conclude, is very powerful, it does not feem on any occafion to give way, to feeble oppofition. Slight attempts avail nothing; in fuch cafes, there is room for innovation. If we are perfuaded, that fudden changes, or revolutions, are proper, let them poffefs energy to effect their purpofe. The prejudices of mankind, and the fears of practitioners, oppofe this general fcheme of treatment, but I have no doubt, but the bold phyfician, will be crowned with frequent, and unexpected fuccefs.

I have often feen remarkable effects from fudden changes, applied in fuch a manner, as to alter the whole circumftances of the habit. When we fee a fever obftinately refifting ordinary means, and fweeping without diftinction, the toiling race of man; is it not then incumbent on us to vary our means, and increafe the chance of fuccefs by multiplied efforts? In fuch difafters any new plan, can hardly be lefs fuccefsful than the old one; and experiment may at length put us in poffeffion of a better method. All our prefent knowledge muft have at firft arifen from chance trials. It is from experience alone, that principles can be deduced, or enlarged,

that

that hints can be extracted, which prosecuted by further enquiry, may become the basis of systems. Investigation, is slow and laborious, we generalize and extend from small beginnings; but the philosopher is rewarded by the discovery of truth, by conferring on mankind durable benefits.

From the great mass of casual experience a selection is made, which may serve to enlighten posterity. The method of practice, by inducing a revolution or change in the habit and constitution, and thus banishing morbid action, extends our views, and gives a scope to the physician, which he could not otherwise attain. The doctrine applies to a number of diseases, and gives a new foundation to practice, when indication wholly fails. I shall show in a few instances, its direct application to other disorders, where the practice by indication could have no place; as the proximate cause was wholly unknown.

In the remarkable history related by KAU BOERHAAVE, of the powers of irritation and sympathy; we see a wonderful instance of the force of terror in changing a morbid

aƈtion, that had eſtabliſhed itſelf fully in the ſyſtem. The ſtriking figure of BOERHAAVE, his ſolemn, awful deportment, his determined manner, impreſſed fear, and excited movements in the ſyſtem, which baniſhed and conquered the influence of the morbid cauſe. This memorable hiſtory confirms very ſtrongly the reaſoning on morbid action, and the manner of changing it, by ſudden and powerful means; for in no other way could the mere appearance of BOERHAAVE produce any effeƈt. The ſurpriſe however, and impreſſions of fear, by altering the movements of the ſyſtem, baniſhed the morbid, and reſtored the healthy movements of the conſtitution.

There are numerous caſes on record, where ſudden and powerful revolutions, have wonderfully affeƈted the body. In Lord ANSON's voyage, it is related, that on one occaſion great numbers were proſtrated by the ſcurvy. A ſhip however came ſuddenly in ſight, ſuppoſed to be an enemy; the men were rouſed, and became anxious and eager for battle. The appearances of diſeaſe greatly abated, and they ſeemed, as it were, to have at once recovered.

vered. They ſoon afterwards relapſed. The effects of ſurpriſe and novelty, baniſh an obſtinate hiccup.

Now there is nothing in theſe caſes, particularly directed againſt any individual effect of the morbid cauſe; the whole action of the ſyſtem is ſuddenly changed, and in this manner the morbid action is baniſhed. It has been remarked by almoſt every one, who has ever followed an army, that men languiſh and become ſickly in eaſy quarters, but recover very rapidly when their powers are awakened, by the approach of danger, or the expectation of an enemy.

I ſhall now record an inſtance of the aſtoniſhing effects of ſudden changes, or powerful movements in the ſyſtem. When I was proceeding to Bombay, in the Middleſex Eaſt Indiaman, a continued fever broke out on board, which attacked great numbers; though very few died. We touched at the Cape of Good Hope for refreſhments, and proceeded on our paſſage. The fever ſtill continued to affect the ſeamen, and they lingered under it for weeks. When we came however to lat. 36° 19′ S. eight

eight or ten of the people had very unfavourable ſymptoms. Next day a violent gale aroſe, with a tremendous, tumultuous ſea, agitating our ſhip with rapid and uncommon motion. It exceeded in violence, all the ſtorms and tempeſts, the oldeſt men amongſt us could remember. It was wholly out of my power, for two days, to viſit the ſick, or give them any aſſiſtance. When I ventured amongſt them, on the third day, I expected to have found ſeveral dead, and the others much worſe. They had hardly received any nouriſhment, and little attention of any kind, during the continuance of the gale. But how great was my aſtoniſhment to find, when I viſited them, that they were all free of fever, and complained only of debility. The courſe of the fever had been entirely ſtopped. No one will here argue, that there was any preſcription, founded on direct preciſe indication; the morbid action, which previouſly exiſted, was changed by very powerful movements in the ſyſtem. The dreadful agitation of the ſhip, appears the chief agent, which by a continuance of three days could not fail to bring on important changes. Fear, hope, and a variety of ſtrong emotions, muſt have alternately

alternately prevailed. Sudden changes then, have in many inſtances produced cures, by altering at once, the whole given circumſtances, and condition of the body, and by introducing a ſet of movements totally different, until the ſyſtem at length adopts its uſual and ſalutary action. This is in no way founded, on partial indication, or any individual effect of the morbid power. I am not acquainted with any indication in continued fever, that would lead me, to be in any meaſure confident of ſucceſs. We ſometimes obviate preſſing ſymptoms, and remove ſtimuli, which might ſupport irritation, and we endeavour to ſupport the vigour of the vital powers, until ſome change may happen; and this compriſes all our knowledge in the treatment of fever. In ſuch caſes, I ſhould be ſtrongly inclined to purſue bolder means, and endeavour to change the phænomena. It is however evident, that moſt phyſicians have aimed, in the treatment of continued fever, to bring on ſudden changes in the habit, without conſulting leſſer indications. Whilſt the doctrines of the venerable CULLEN prevailed, the removal of ſpaſm, and the

giving of tone, were the great views of practitioners.

OF ULCERS.

THE late ingenious Mr. JOHN HUNTER has furniſhed many curious remarks on morbid action. Let us take a ſhort view of the treatment of ULCERS; and ſee how far it is founded on our principles. Wounds, in whatever manner produced, from certain unknown cauſes, in ſome inſtances become foul, and unhealthy ulcers. The matter ſecreted in them is either thin, acrid, or ſanious. The peculiar modification of action, which then exiſts in the veſſels, diſpoſes them to this untoward diſcharge. In theſe circumſtances, a cure is not readily effected; the ulcer proceeds to acquire a worſe appearance, and the aid of phyſic becomes requiſite, to give it a better aſpect. In theſe caſes, before we can do any thing of the leaſt advantage to the patient, a change muſt be effected in the mode of action, by which the veſſels muſt be diſpoſed to another modification,

more favourable to the production of good pus. Many authors have been convinced, that this change has been produced, by a certain management of heat, on the secretion itself; independent totally of the action of the vessels. They became more firmly persuaded in this belief, since the publication of Sir JOHN PRINGLE; where some experiments on this subject are detailed. The medical character of Sir JOHN PRINGLE, stands deservedly high, but he has been misled by the circumstances, on which he grounded his theory. In these experiments, serum was exposed to a regulated heat, and after some time, a whitish coagulum, was discovered at the bottom of the crucible, with a fœtid disagreeable smell. From these appearances, it was concluded, that the mode in which pus was formed, had been discovered, and that the whole process depended on modified heat applied to extravasated serum. Mr. BELL, of Edinburgh, in his treatise on ULCERS, a work of considerable use and merit, has adopted this reasoning. To me, the matter appears altogether different. It would seem that the vessels of an inflamed tumour themselves, communicated to the serum, by a pecu-

a peculiar action, the power or capability of becoming pus. And, that the nature of the discharge from any ulcer depended, not on a regulated heat, but on the peculiar action, that may at the time exist, in the vessels of the part, or in the system at large. Thus in a foul ulcer, it happens that no impression can be made on the discharge, by any regulated heat, in any form whatever, yet the exhibition of the bark, produces astonishing effects in a short time. No one, I presume, will argue, that bark in this instance operated on the serum itself, which may be supposed out of its reach, and extravasated in the cavity of the ulcer. The favourable change appears evidently to result, from the action of the bark on the vessels, and system in general, and changing the peculiar state which gave rise to the untoward discharge; by changing this modification of action, the vessels are enabled to endow the serum, with the capability of becoming pus. We remark besides, that tumours undergo an intermediate stage, before pus is produced; notwithstanding the application of poultices or fomentations. If heat alone could convert the serum into pus, this intermediate stage of inflammation

tion would by no means be neceſſary. But the diſpoſition or capability of becoming pus is communicated to the ſerum by the veſſels, and not by any modification of heat, or any action of it, on the ſerum, after it is once fairly ſecreted. Venereal ſores aſſume commonly the moſt unfavourable aſpect, and the diſcharge is acrid, thin, and offenſive, until mercury be given. In vain will poultices be applied, or bark adminiſtered, till this medicine has been given. That is, the peculiar action, which exiſts in venereal ulcers, and conſtitutes their eſſential nature is not dependent on the ſtate of the ſerum, but on that of the veſſels, which is only to be changed by mercury. We may remark too, that ſerum is often extravaſated in other cavities, and expoſed to conſiderable heat, without becoming pus. The peculiar action which creates pus, not being preſent in the veſſels, when ſuch extravaſation happened, the neceſſary diſpoſition to form it was not beſtowed.

The utility of regulated heat, in the form of poultices and fomentations, is confirmed by experience, but certainly does not pro-

duce its effects, by acting on the extravasated serum. The collections of water in dropsy, bear a strong analogy to serum, yet we do not find that heat converts them into pus; the reason is, that the vessels did not bestow that peculiar something, which is necessary to this process *.

The admixture of solids, the dissolution of the vessels, and the addition of blood, do not afford any satisfactory explanation of the phænomenon. The various secretions of the glands, are performed by a peculiar modified action; for although the elements of bile, urine, and semen, may by analysis be discovered in the blood, yet no one has ever detected them in their appropriate peculiar form; nor are they ever seen, before the vessels have performed their peculiar act, by which these secretions are produced. The blood itself seems to derive from the action of the vessels, its colour and determinate nature. They exert upon it a peculiar action, and successive changes complete the process. The stomach

* Vide Note I.

separates

ſeparates the nutritious parts of the aliment, which change into new qualities, by the admixture of bile and the pancreatic juice. The lacteals perform their part, and further changes are effected in the progreſs of the chyle, through the thoracic duct. Till at length, the grand operation, which finally determines the eſſential nature of blood, is performed in the lungs, heart, and arteries. From this ſeeming uniform maſs, are derived various fluids, by the action of particular organs. Frequent changes happen in theſe ſecretions, when general health is by no means impaired; thus the colour of the urine, and the conſiſtence of bile, are hourly varying, from a change in the mode of action, in the glands which perform theſe ſecretions. To a change in the action of the kidneys, may be aſcribed the foundation of gravel ſtones. They are not always the effect of a nucleus, caſually exiſting in the bladder. The mode of action in the ſecretory veſſels, diſpoſes particles, to ſeparate themſelves from the urine; and thus produces, if I may ſo ſpeak, the gravelliſh tendency. Baron HALLER informs us, that the preſence of females, promotes the ſeminal ſecretion, and excites uneaſy ſenſations

ſenſations in the glands themſelves. This unqueſtionably proves, that a peculiar action is produced; and the immenſe flow of pale urine in hyſteric females, ſhows, what increaſed or varied action may perform.

I have adduced theſe inſtances, in ſupport of the action of the ſolids, which appears to be the chief agent in producing the various animal phænomena; but practical benefits reſult from correct reaſoning. Thus the theory of Sir JOHN PRINGLE relative to pus, may on ſeveral occaſions, lead to an inert or improper practice. It would for inſtance, lead to local applications, in caſes, where the ſyſtem at large ought to be acted on; and we ſhould be loſing time in feeble efforts, inſtead of purſuing a manly vigorous treatment. Thus far, falſe theories are dangerous, and merit ſtrict attention. Whenever our practice is the reſult of theory, it becomes us very narrowly to examine it. Phyſicians, and among others Sir JOHN PRINGLE, have been wonderfully deceived by the application of their inductions from experiments; the very principle of ſuch experiments being erroneous. I mean experiments

periments made on various ſubſtances out of the body; or on dead animal fleſh. It is unphiloſophical to reaſon in this manner, or to expect any uſeful induction from any number of experiments, made on ſubſtances, whoſe qualities with reſpect to each other, are ſo remarkably oppoſite. We cannot hope for uſeful diſcovery, in this mode of inveſtigation. The animal and dead fibre, differ ſo widely, as not to admit, almoſt, any common analogy. Experiments of this kind, may be uſeful to commerce, and enable victuallers and commiſſaries to preſerve proviſions; but cannot be of the leaſt utility in medicine. Camphor has been found in theſe trials, to reſiſt the putrefaction of animal fibres, and has been ſince employed as an antiſeptic in fevers; but if it poſſeſſes any power of this ſort, it ariſes from a very different ſource, from that to which we aſcribe a preſervative quality, with reſpect to dead fleſh. Let it be obſerved, that common culinary ſalt, in a remarkable manner, reſiſts the putrefaction of dead fleſh. Yet no one has thought of preſcribing it in ſcurvy, which is often attributed to its uſe.

Upon

Upon the whole there is no credit due to experiments made on any ſubject, except the living human body. In ſome very broad analogies, from the brute creation, we may receive principles, though I am inclined to believe, that we have been led into errors, from proſecuting too earneſtly this manner of reaſoning. The conſtitution of brutes is very different from ours, and we are ſubject to much fallacy, becauſe we muſt be ſatisfied with what we can obſerve, without the benefit of interrogation.

Upon the whole, it would appear, that in INTERMITTENTS, CONTINUED FEVERS, and ULCERS, we effect cures, not by directing our efforts to a preciſe known proximate cauſe, but to effect a general change in the ſyſtem, and by altering all the circumſtances baniſh at length the morbid action.

Let us attend to the progreſs and cure of

LUES VENEREA,

And ſee how it accords with theſe principles.

The

The matter of Lues Venerea, when applied to certain parts of the body, produces a peculiar morbid action, which characterises the diseaſe, and which yields to the changes, experience has taught us, mercury can produce. It evidently ariſes from contagion applied to the body, in an active ſtate; and this contagion generates and produces the diſeaſe. When we examine the ſubject more narrowly, a regular progreſs is obſerved in all the phænomena. The contagion, ſoon after its application to the ſyſtem, finds a neſt, where by a power unknown to us, it ſeduces the veſſels from their uſual mode of acting, and produces in them a diſpoſition to ſecrete the venereal virus. This peculiar modification of action in theſe veſſels, whatever it be, forms the proximate cauſe; and exhibits the morbid phænomena. In this manner chancres, and other venereal appearances, are produced. When a large portion of the living ſyſtem is under the influence of this action; the quantity of the virus is increaſed, till at length, there appears a general tendency to adopt the new impreſſion; when the habit may be ſaid not improperly to be venereal. This is the manner of its progreſs. Experience

perience has fortunately taught us, that this morbid action, ſo formidable to youth and pleaſure, and ſo dangerous to the procreative faculties, yields to the action of mercury. The object of the phyſician is to change the morbid action, introduced by the venereal virus, and to ſubſtitute another ſet of movements, ſo as to bring the ſyſtem back, to its ancient laws, and common action. But we cannot perceive the peculiar mode in which the virus acts, ſo as to produce its phænomena, nor do we know preciſely the manner in which mercury brings the ſyſtem to health, and cures the diſeaſe.

Experiments have been made to aſcertain, whether there was any chemical affinity between the venereal virus and mercury, by which they might be diſpoſed to unite, and form an inactive neutral. Theſe experiments, like all others made out of the body, gave no ſatisfaction. For, if it had been proved, that ſuch attraction actually exiſted; little or no light, would be thrown on the ſubject. It would not follow by any means, that this combination took place in the living ſyſtem. We have numerous inſtances in practice, where the local application

cation of mercury is daily made, without producing any good effect, until the syſtem in general was affected; that is, till another action baniſhed the venereal movements. Nor does mercury itſelf ſeem to poſſeſs a perfect ſpecific power, by which, in all caſes, it would effect a cure. There are circumſtances of the conſtitution, which by affecting either the morbid action itſelf, or the operation of mercury, prevents the habit from recovering. Too much vigour, or too great debility, impede and retard the ſucceſsful operation of mercury. I have ſeen inſtances in ſcrophulous habits, where the utmoſt difficulty occurred, of making mercury at all uſeful; and where there was ſomething in the morbid action, which reſiſted all oppoſition, and proceeded to the full deſtruction of the conſtitution.

Lues venerea, is the conſequence then, of a contagion perverting the uſual movements of the ſyſtem, and ſeducing the veſſels of the part to which it is applied into a new action, which induces them to ſecrete a matter ſimilar to that which excited the commotion in the habit. And mercury is another power, which by affecting the ſyſtem,

in a more vigorous manner, baniſhes the action of the venereal virus, and brings back the ſyſtem to its uſual obedience; to its common laws. But the definite manner, in which it operates, we do not know, nor do we know the proximate cauſe. No one will pretend to ſay, whether the action of the veſſels, where venereal ulcers ariſe, be quick, or ſlow, or oſcillatory. There is a ſecret modification of action in the proximate cauſe, which the wiſeſt of us have not been able to aſcertain; nor the manner in which mercury baniſhes it.

We obſerve, from experience, a number of circumſtances which influence the favourable, or unfavourable effects of mercury; theſe as matters of fact, for we cannot account for them, guide our practice, and influence our preſcriptions; and this is all the knowledge we really poſſeſs. There are undoubted proofs, that the ſtate of the body changes the whole phænomena of a diſeaſe, ſo as to give the effects of one cauſe a total different aſpect. Thus the matter of lues venerea applied to glandular or ſecreting ſurfaces, brings on a morbid diſcharge, with many other ſymptoms very different from

from the venereal chancre. And yet no doubt can be entertained, that the matter which produces both, is entirely the ſame. I know, that other opinions have been advanced on this ſubject, which may be very ingenious, but are certainly very remote from the truth; as diſcovered by experiment or analogy.

Let us next attend to the phænomena of a dreadful diſeaſe, the

SMALL-POX.

The matter of the ſmall-pox, when introduced, forms, like the venereal virus, a nidus for itſelf, and there exerts its peculiar powers, by reducing the veſſels of that particular ſpot into a new action, by which they are induced to ſecrete a fluid, every way ſimilar to the original contagion. This forms a kind of magazine, from which particles of matter are ſuppoſed to be detached into the blood, theſe by ſome unknown law of the ſyſtem, are directed to the ſurface where they form neſts to themſelves, and undergo a ſimilar proceſs, to the

the matter at firſt lodged. Each ſpot has its intermediate ſtage of inflammation, or its proximate cauſe, or ſecret action, by which the matter of ſmall-pox is finally and completely produced.

The fever of the ſmall-pox, which precedes the eruption, appears to me, to be the revolt of the ſyſtem from its common laws, to adopt the new or variolous action. It is doubtful perhaps, whether particles in a ripe formed ſtate are really detached to the ſurface of the body; it is more probable, that the variolous matter acts from the ſpot in which it was at firſt depoſited by the intervention of the nervous ſyſtem or ſympathy, and in this manner ſeduces the veſſels of the ſkin, where if a tendency to inflammation happens to be preſent, the variolous action will become general, and a large quantity of the matter will be produced. This reaſoning is countenanced, by obſerving, that no matter, in a formed ſtate, is diſcovered in the early variolous puſtule, which is a hard inflamed ſpot, that produces, after a certain period, the matter of ſmall-pox. The inflammation or peculiar action ſeems abſolutely neceſſary to the production of the variolous matter. If this

is not true, the future diſeaſe, ought always to bear ſome proportion to the quantity of matter at firſt introduced, or afterwards generated in the nidus; but it is known, that no ſuch proportion has ever taken place. Nor would the puſtules ever require the intermediate proceſs of inflammation, but would appear at once full of mature and ripe ſmall-pox. So that it is not quite clear, that matter is poſitively diſperſed in a formed ſtate over the body. The proximate cauſe of the varioli, then, is a ſecret modified action, which induces the veſſels to adopt new movements, and ſeparate the variolous matter. The veſſels under this influence are for the time made glandular, and every ſpot may be juſtly conſidered as a gland ſecreting a peculiar fluid.

We are evidently ignorant of the proximate cauſe of theſe phænomena, ſo as to preſcribe for it, and baniſh it. Experience has indeed ſhewn us many circumſtances, connected with the favourable or unfavourable progreſs of the diſeaſe, and theſe are embodied into regulations for our conduct in the treatment of it. But we do not proceed further, we have no definite or de-

cisive indication; we cannot prevent the disease, but by flying it, nor can we with certainty amend its symptoms, or positively cure it. The vessels on the surface are the seats of the disease; on their condition much must depend, and on the kind of action they adopt. The application of cold, in the manner of the celebrated Baron DIMSDALE, seems to put them in a very favourable condition for a mild secretion. The inflammatory stage is moderated; on which so much depends in all diseases, where matter is formed; and the whole process is made more mild and gentle. The species of action, which would produce a malignant kind, is thus changed, and a modification introduced, which conducts the disease to a happy issue.

I have no doubt but some important improvements may be yet made in the management of this formidable malady. The late ingenious and learned CULLEN, when treating of the small pox in his system, rightly imagined, that a peculiar state of the vessels on the surface, regulated the future events of the disease. These vessels certainly appear to be the principal agents in the

the production of the variolous matter, and therefore muſt influence the iſſue. It is ſingular, that the variolous matter, having been once general in the ſyſtem, cannot be again reproduced, by applying the contagion; this is one of the myſteries in the animal œconomy, which we may never be able fully to explain. There may however be a chance of diſcovering a remedy, which, like mercury in the lues venerea, may counteract the proximate cauſe, without going through its uſual revolutions. I think there cannot be a doubt, that the variolous diſeaſe is produced *, in the manner we have been ſtating; and that improvement in the manner of treating many diſeaſes may reſult from obſerving minutely, the laws which regulate morbid action.

We have thus ſhewn, that in many diſeaſes, although we evidently mark a peculiar morbid action, conſtituting their proximate cauſe, yet we are not ſufficiently intimate with its peculiar mode, ſo as to preſcribe for it, or change it; and therefore, that our practice, when directed to ſome

* Vide Note II.

of

of its effects, becomes feeble, as the cause continues its operation. But when we attempt to change the whole given circumstances of the body, and introduce sudden and considerable changes, we have a chance of banishing the disease from its strong holds, and when its morbid action ceases, the system naturally adopts its ancient laws, and usual movements.

NOTES.

NOTE I.

THERE are ſome circumſtances in VENEREAL ULCERS, which I could not ſo properly blend in the diſcuſſion of that ſubject; but which may be added here. It has been remarked, that the venereal diſeaſe, does not ſeem to depend, on the nature of the matter which produced it; that is, on the greater or leſſer vigour of the virus, but on the ſtate of the ſyſtem to which it is applied. This I believe in general to be found true.

I ſhall juſt mention one condition of a venereal ulcer, in which it may be poſſible, that the virus, is much below its uſual ſtandard of vigour, and in this ſtate, may, from want of ſtrength in the virus, bring on a milder diſeaſe. This I confeſs is mere conjecture, which I have not been hitherto able, preciſely to aſcertain from experiment.

experiment. This ſituation occurs at the critical period, in which the venereal action is about to ceaſe; and before a perfect cure is effected. It occurs in gonorrhœas, when about to degenerate into gleets; when the affected veſſels, are under that compound influence, where the ſecreted fluids, are neither morbid, nor perfectly healthy. Such a ſtate may really be ſuppoſed to exiſt, near the ceſſation of gonorrhœas, and when venereal ulcers, loſing their characteriſtic appearance, begin to put on the aſpect of ſimple ſores. It may be difficult to conceive that the veſſels can be under the influence of a double action at the ſame time; but in a ſtate of diſeaſe, they always are, for the healthful movements of the veſſels are never wholly deſtroyed, till death. Projectile bodies are under the influence of two powers, the projectile itſelf; and the power of gravitation, the reſult of which is the parabolic curve; it may be thus in the human body, two actions may exiſt, which at length terminate in the uſual movements of the ſyſtem.

It has been remarked in the Eaſt Indies, and I can bear teſtimony to the fact, that the

the venereal diſeaſes of Bombay, are more violent in their progreſs and effects, than in any other quarter of that country; Dr. KAY, of St. Helena, an experienced and acute obſerver, remarked, that moſt of the deſperate caſes he had ſeen, on their return to Europe, had come from Bombay. To what is this difference owing? is it to the nature of the virus?. or in ſomething peculiar induced in the conſtitution, by the climate of that iſland?

NOTE II.

It has been ſuppoſed, that the variolous matter produced its effects by fermentation, and there are ſome at this day, who believe this doctrine. If it was in any degree true, the quantity of ſmall pox ought to bear ſome proportion, to the violence of the fever, or firſt proceſs; and the fermentation ought to produce on the ſurface, matter at once fully formed; inſtead of which we obſerve a regular proceſs is neceſſary, to maturate the puſtules which firſt appear ſmall and inflamed. The ingenious and candid baron DIMSDALE, has remarked,

that the future diſeaſe, was generally in the inverſe ratio of the early ſymptoms. In proportion, as the ſymptoms in the arm, where the virus was inſerted, were violent and rapid, in their progreſs, in the ſame proportion the future diſeaſe was mild and ſecure. This would not happen, if the diſeaſe was produced by fermentation. It is curious that matter in a formed ſtate entering the circulation, as it does when the ſmall pox diſappears, produces ſo little danger. It is true, there is ſome commotion, as the ſecondary fever, ſeems evidently the conſequence. It is alſo remarkable, that the ſecondary fever, is more ſevere, when the matter abſorbed has not undergone the full proceſs of maturation.

Nor can we explain, how maturation diminiſhes the virulence of the virus, with reſpect to one individual; and yet poſſeſſes its full activity, when again applied to another perſon, to give the contagion. The kind of ſmall pox is evidently connected with all the circumſtances, which regulate inflammation. It is the effect of a peculiar action in the veſſels of the ſkin; and therefore, that action muſt be modified,

when

when we would attempt to change the qualities of the matter produced. All the improvements of Baron DIMSDALE, have been directed to regulate the ſtate of the veſſels on the ſurface; and could in no way affect the variolous matter itſelf; and I have no doubt, but ſtill greater improvements may be yet made from the uſe of mercury.

NOTE III.

Among the impediments which retard the progreſs of medicine, we have not marked *falſe records*, which moſt unfortunately fill many of our medical hiſtories. Theſe preſent, if I may ſo ſpeak, falſe facts, or facts ſo repreſented as to miſlead; and not only perplex the phyſician, but render his efforts dangerous. It is not poſſible on any other ſuppoſition to account for the total failure of medicines, recorded univerſally ſucceſsful, in the hands of ſome practitioners, and totally uſeleſs in the hands of others. The hiſtory of cicuta is one example of this kind, and the ſucceſs of corroſive ſublimate, in all cutaneous diſeaſes, another. Men, who thus deliberately miſlead, and

and diſguiſe truth, for the ſake of theory or ſyſtem, are atrocious conſpirators againſt the lives of the human race, and pollute the only true ſource of knowledge. MEAD, and VAN SWIETEN, STORCK, and many others, have given us records of this kind. We cannot be too minute in deſcribing the effects of medicines which are univerſally recommended; and all the circumſtances of the perſons to whom they are preſcribed. It has been an unfortunate practice to conceal *unſucceſsful caſes*; and one ſide of the queſtion has been only exhibited. This is an idle vanity of ſucceſs, which is ſoon detected, whilſt the veracity of the practitioners is rendered very queſtionable. It anſwers the purpoſes of empericiſm, but ſhould be ſpurned and rejected by a liberal profeſſion.

NOTE IV.

In the enumeration of caſes, where a ſudden change, not founded on direct indication, produced very remarkable effects, I omitted to mention one of a very ſingular nature. A ſoldier in the Welch fuſileers, the

the 23d Regiment had been for a long time affected with epileptic fits, which obſerved very regular periods in returning. His companions however believed, that he indulged them himſelf, by giving way too much, when he found the fits coming on. He embarked on board a veſſel bound from Jamaica to St. Domingo, when the fits obſerved their uſual periods. One of the ſoldiers reſolved to play him a trick; he made a poker red hot in the cook's furnace, and whilſt the poor ſufferer was graſping round in convulſive motion, he put the poker into his hand, which he firmly graſped, leaving on it all the ſkin, and a good deal of the fleſh of his fingers. This ſoon waked him from the epilepſy; his hand was cured, and the diſeaſe never more returned. This caſe was related to me by two reſpectable officers now living, who were preſent. The man had been affected for ſeveral years with this dreadful diſeaſe. I do not adduce this caſe, as an inſtance of practice meriting imitation; but to ſhow the force of very powerful and ſudden changes.

NOTE V.

IT may perhaps be objected to the mode of prescribing, for altering morbid action and producing changes, that we cannot often say, what kind of action really exists, whether we ought to quicken or to restrain movements. An ingenious writer observes, " that in a machine extremely complex, formed by the combination of numerous matter, diversified in their properties, in their proportions, in their modes of action; the motions necessarily become extremely complicated, their dulness as well as their rapidity, frequently escape the observation of those themselves in whom they take place." Nothing can apply more strictly to the movements of the human body, whether healthy or morbid. There are indeed few instances in which we can perceive or ascertain precisely the kind of action which prevails. Habit, in this, as in many other instances tyrannizes over our native sensibility, and deprives us of that acuteness which accompanied birth. We evidently mark the sensibility of infants, which is affected by the slightest

ſlighteſt change. The impreſſion of the air, the expanſion of the lungs, the action of light, the increaſed force of the heart, and perhaps the vibration of their arteries, appear in them to create uneaſineſs. But habit ſoon renders us inſenſible to their movements. We feel the contractions of the heart, only when its palpitations are unuſual. We reſpire without conſciouſneſs; and walking is often performed, when we are not by any means ſenſible of any exertion. Conſiderable changes, are thus conſtantly going forward, without our being conſcious of their exiſtence. We cannot employ our ſenſes, to aſcertain theſe changes, but we are taught by reaſon and analogy, that they really exiſt,

The philoſopher who would confine himſelf, to what his ſenſes diſtinctly unfolded, might indeed be more accurate in his purſuits; but his knowledge would be very limited, without admitting analogy and probability. Without theſe, ſcience would be confined within very narrow limits.

But we are ſometimes enabled to ſay with ſome preciſion, what kind of action

really exiſts, in particular circumſtances of the human body. Thus, in inflammations of the active kind, we evidently ſee, and feel, the action of the arteries increaſed. But there is ſomething attending this action, which we do not comprehend. We cannot aſcertain the peculiar modification of it, which induces it to produce pus in thoſe inflamed parts. This is the myſterious part of the buſineſs. In fevers, the pulſe is often as frequent, and ſtrong as in inflamed tumours; yet pus is not produced, becauſe a ſomething which exiſted in the pulſe connected with inflammation, does not exiſt in fevers. In running or dancing, the pulſe is often accelerated, and beats as rapidly for a time as in Fever; yet the head-ach and laſſitude, with the other characters of real fever, are abſent; becauſe the peculiar ſtate, in which fever conſiſts, is not at the time preſent. A flow of tears from the eye is cauſed by an increaſed action in the lachrymal veſſels; but acrid ſubſtances applied to the eye do not produce ſuch a plentiful flow, as when the tears have been cauſed by grief or ſorrow. Becauſe, the peculiar action which produced them, does not exiſt in the application of acrid ſubſtances.

In uterine hæmorrhage, we can often diſtinguiſh two ſtates of action; the one, an increaſed energy; the other, a diminiſhed action in the veſſels. We infer the exiſtence of the firſt, from a hard rapid pulſe, full and tenſe. We infer the ſecond ſtate, when the pulſe is low, flat, and weak; and from the effects of aſtringents, which in theſe circumſtances uſually put a ſtop to the hæmorrhage. Obſervation alone can inform us, on theſe points. But granting, what we muſt allow, that we ſeldom know the preciſe mode of action, we do well when we effect a change, as the ſyſtem is then more ready to adopt its own healthy and proper movements. Every means, then, ought to be employed, that afford any proſpect of effecting theſe changes; ſo neceſſary to the baniſhment of diſeaſe, and the eſtabliſhment of health.

NOTE VI.

On a careful peruſal of Dr. JACKSON's book on Fevers; it affords me the greateſt ſatisfaction to find, a coincidence of thinking, in many particulars which I have treated.

treated. He is the firſt who boldly puſhed cold bathing in fevers, to an extent unknown to former practitioners; he has explained the inceſſant vomiting and its phænomena in the Yellow Fever on the principles I have been endeavouring to eſtabliſh. From him I have derived many uſeful hints, which I had conſtantly in view, in the courſe of my experience. Whatever I have been able to obſerve confirms the general accuracy of his remarks; and I hold this no ſmall proof of the fidelity of what I have related. From Mr. JOHN HUNTER I drew my firſt notions of morbid action, and endeavoured to apply his doctrine more extenſively in diſeaſes; eſpecially in fevers. To follow ſuch leaders, is at leaſt meritorious; and to enlarge or confirm doctrines of which they laid down the elements, may poſſeſs ultimately more uſe than novelty.

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